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Vol. X DECEMBER, 1920 No. 12


## SOCIAL USES OF MEDICINE


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*Framingham, Mass.*



Read before Sociological Section, American Public Health Association, at San Francisco, Cal., September 15, 1920



**Seventy percent of our people need medical or dental treatment, but go without because of lack of proper medical organization. Dr. Armstrong is not merely critical, but is constructive. He shows the absurdity of making physicians dependent on sickness for support, and outlines a plan of community procedure on a rational basis.**


IN the practice of medicine today is found much that is admirable from the point of view of personal service and community welfare. Ingrained in the system of private medical practice is also much that is chaotic and wasteful, much that is destructive of the best interests of society. Side by side with the glorious spirit of individual self-sacrifice, characteristic of medicine throughout the ages, students of social organization are increasingly conscious today of elements tending toward the perpetuation of inadequacies in disease control, serious qualitative and quantitative deficiencies in diagnosis and treatment, resulting in an inevitable loss to society in preventive and therapeutic potentialities unutilized, and retarding the development of scientific medical knowledge, as well as the elevation and standardization of practical medical service.

### ACCOMPLISHMENTS OF MEDICINE

Yet marvelous has been the progress of medicine in the last few decades. Great have been the benefits to mankind resulting from unselfish effort and untiring struggle against the captains of disease and death. Many are the trophies of victory won in this fight to lay a firmer physical foundation for economic, social and spiritual evolution. The sanitation of whole countries has made possible the exploitation of the resources of nature. Smallpox robbed of its terrors, yellow fever conquered, typhoid fever reduced to a disease of minor importance in most self-respecting communities—these are a few of the conquests of *preventive* medicine.

Still, the necessary characterization of these accomplishments as preventive, is not wholly encouraging. This is progress in disease prevention, but it is not es-

sentially a reflection of growth in the routine practice of medicine, the diagnosis, treatment and cure of the everyday minor or serious affections. Unfortunately, the same methods responsible for the advances in epidemiology are not applicable to the control of many of the remaining scourges affecting society. Dependent upon still undeveloped methods is the ultimate control of such major factors in our present mortality as tuberculosis, cancer, kidney and heart disease, probably the less specific respiratory affections, venereal disease, etc.

These advances in disease prevention are in fact a direct measure of organization in medicine. They are the result of organized research, of the social organization of medicine through health departments, sanitary commissions, or similar social devices. The type of medical social organization devised to meet these problems has accomplished part of its task admirably. It still has other fields to conquer. Yet without further and different development in the organized social group use of other existing resources and methods for disease control, we cannot hope for substantial progress in many vital fields. As Sir James Mackenzie has put it, in his recent volume on *The Future of Medicine:* "The next step is to recognize, that if progress cannot be carried further with our present conceptions and methods, we must look out for a new concept, as well as new methods."

### INADEQUACIES OF MEDICAL PRACTICE

What is the situation in many fields of medicine today? Investigation shows that 70% or more of any typical population group is in need of medical or dental advice or treatment, for minor or serious ills. How many are ever brought into contact with corrective medical advice? How many are advised or treated while the affection is in its incipiency? How many, even when brought under medical surveillance, receive competent and thorough-going advice or treatment? In what percentage are the laboratory and other technical "instruments of precision" for diagnosis and treatment, although theoretically available for all, actually applied? Why do many physicians everywhere, in spite of state provision, still make or fail to make diagnoses of diphtheria without throat cultures, or syphilis without a Wassermann?

Recent surveys have shown that there exists in normal communities three times as much active tuberculosis as is usually under observation. Why is it that in most communities 20% of the tuberculosis cases first come to the knowledge of the health authorities when reported at death? How infinitesimal is the percentage of surgically curable cancer that is detected in time? What health officer is bold enough to claim that even a substantial proportion of the venereal disease in his community is receiving adequate medical treatment? How many adults or children in the typical urban population ever receive an annual medical inspection—admittedly essential to the detection of early disease and the promotion of hygienic living?

The present method of unorganized private medical practice, devoted and conscientious as are the rank and file of the profession striving *individually* to meet these problems, has been tried and found wanting. Real progress in all allied fields has been concomitant with some degree at least of social organization. Can private practice, through socialization, be converted into a far more effective social instrument?

We all know that the individual in the system is not responsible for this seemingly hopeless and chaotic condition. He is a victim, with those he is seeking to serve, rather than a promoter of the system. The status of medicine today is one of the many symptoms of the semi-anarchistic, individualistic organization of social life. It shares with other phases of the unsocialized state the glaring imperfections of society. Syn-

thetic-minded leaders in all walks are seeking an adequate program. Indeed, this is conspicuously true in medicine. Unfortunately, here as elsewhere, progress or even the experimentation essentially prerequisite to progress, must be made against the lethargic opposition of many who lack the spacious-mindedness necessary to grasp the significance of the present acute problems of this war-altered world. The problem of utilizing social forces for the physical betterment of man presents many inherent difficulties. Change there must be. Shall that change be radically disruptive or conservatively constructive?

### NEED FOR SOCIALIZATION

As some one has put it, "the whole world is yeasty." Changes are inevitable, changes involving new relations, new social adjustments, new usages for social organization. Now, is it not true that past history shows a tendency toward the development of new social instruments? Certainly this is true of medical history in particular. The great modern advances in disease control, barring a few unpremeditated, unplanned, accidental discoveries by isolated individuals, have been the result of organization, either for laboratory research, field study, or other experimentation. Shall we not therefore find, that in order to solve the major difficulties of medical practice today, we shall have to have a further socialized organization of the forces now wasted or imperfectly used?

Certainly no doubt can remain as to the inadequacy of the present day arrangement, particularly on the side of case treatment. Speaking with international authority Sir Arthur Newsholme says:

"That the work done on behalf of the community, *plus* the work accomplished by private medical practitioners, is not equal to national needs, is obvious to anyone considering the vast amount of avoidable disease in our midst. Why is this and what is the remedy? . . . The medical provision made in a large proportion of cases is belated and inadequate; it commonly does not include the full resources of medicine; and in perhaps a still larger proportion of cases medical advice is not obtained, or being obtained is not followed. This applies even more to hygienic than to clinical medical advice."

In the face of these difficulties there are those in the medical ranks who would urge that the physician be concerned only with clinical medicine, only with the treatment of individual cases, leaving disease prevention, and the promotion of hygiene and allied problems, entirely to the sanitarian and the social worker. The weakness of this must, however, be apparent to anyone seeing the problem as a whole. It is one problem, a problem of social medicine—a movement that must push forward in a united advance on the bulwarks of disease. We cannot separate the treatment from the prevention of disease without jeopardizing the success of both.

### SOCIALIZATION TO DATE

At what preliminary conclusions have we therefore arrived? Is not the answer the "socialization of medicine"? Why is this phrase to the average medical man "like a red flag to the Attorney General"? Is the socialization of medicine something new and unheard of? Have we none of it to date? Is it something terrible that is going to befall us over night? Are we being led astray by fools captured by catch-words?

On the contrary, the socialization of medicine began with the earliest clinic, hospital or health department; and has slowly and inevitably broadened in scope and increased in momentum, to the inestimable benefit of the public and of the medical profession itself.

Indeed, the social tendencies in medicine today are following many sound precedents. There was a time, for instance, when most communities got their water supply from individual wells.

Then there came a time when a common (social) water supply was found to be safer, cheaper, and in every way better. Medical service is now passing from this individualistic stage to the stage of social conservation and social control.

Those who object to the theory of "socialization" do not usually oppose its practice. Consider such universally accepted examples as the following:

1. The development of a medical coöperative group method of treating disease—namely the hospital public ward.

2. The establishment of diagnostic and treatment facilities for large social groups, medical equipment and personnel being employed in common—namely, the clinic or dispensary, and all out-patient service.

3. Community health organization, official and private health bodies—representing the interests of the whole community as to disease prevention and control.

4. The employment of medical service for large population groups in society, as for the school children, the industrial workers, etc.

5. The development of group practice and specialty clinics, rendering available diagnostic and treatment facilities otherwise beyond the reach of the average physician and patient as well.

6. The fostering of routine medical examination and advisory work for large unorganized groups of individuals by the employment of organized medical forces, such as through the Life Extension Institute, and other agencies.

7. The preparation of vaccines, sera, etc., by the state, for social use.

8. Finally, and perhaps most significant thus far, the employment of *organized medical* forces, in the development of general *social machinery* for the prevention and treatment of disease and disability, as in accident and sickness insurance, imperfect as is our social organization in these fields at present, inadequate and unsatisfactory as has been the practical provision on the medical side.

Are not these measures more than "a tendency toward the socialization of medicine"? What, in fact, is the "socialization of medicine"?

Before reaching a definition of this term, let us say once and for all that this is not an attempt at the analysis of detailed method in the present medical system. It is more an effort to interpret the existing spirit and doctrine of medical service and disease control. Neither is it the plan to outline and discuss specific recommendations, such as health insurance, for instance. Rather, it is hoped to indicate certain broad lines delimiting the range and direction of future progress. Our interests are not in the theories but in the practical program. Our argument is not for "the type of mind that would rather play with a perfect theory than improve an imperfect world."

### WHAT IS SOCIALIZATION?

What does the socialization of medicine mean? Does it not mean the use of medical knowledge and facilities for constructive social ends? This implies the social attitude, namely, the attitude of service.

Now, from this point of view, there are few who will not agree that the practice of medicine, in spirit and motive, is the most socialized instrument for physical betterment at work in the world today. The physician has the spirit of service. He succeeds to the extent to which, through his unorganized individual efforts, he is bettering the lives of others. He possesses the social attitude; his social defects are therefore largely those of method and organization. All that is implied by the term is admirably expressed by Sir Arthur Newsholme:

"The definition of the sense in which I employ the term socialization in medicine—would include the rendering available for every member of the community, irrespective of any necessary re-

lation to the ordinary conditions of individual payment, of all the potentialities of preventive and curative medicine."

IMPENDING SOCIAL DEVELOPMENTS

We need not be concerned over the spirit of service essential to this object. It is there and always has been. How can medical facilities be organized practically, for the attainment of this end? That is the great problem, upon the solution of which real progress in further disease elimination depends. Still, do not all the current manifestations of socialization previously discussed bring us several steps further in the direction of the goal? Are we not on the verge of fresh developments in this same direction? What, in fact, are the impending developments in the social life of medicine through which we may hope to see the methods of medical practice more nearly approximate the admirable social spirit which inspires the medical world? Perhaps a few of these "next steps" may be indicated as follows:

1. The further development of public and private health organizations, using their machinery for disease control, for the elimination of non-communicable and degenerative causes of disease and premature death, such as cardiac, nephritic, and other affections, as through dietary education, cardiac classes, etc.

2. The further development of adequate training for medical men in medical schools in the science of disease prevention and early detection, the principles of hygienic living, as well as the treatment and cure of specific cases of disease.

3. Adequate post-graduate instruction, providing a means for continuous, up-to-date contact with the more recent medical discoveries, possibly involving periodic re-examinations on the essentials of diagnosis and treatment—thus strengthening the relation between the State and the physician, with the object of better medical service.

4. The extension of clinic and dispensary medical facilities on a pay basis for wider groups in the population—a further socialized use of the clinic method.

5. A great extension of organized, age-group diagnostic and advisory work, bound to come in the near future, including full-time medical, dental, nursing and clinical personnel and equipment for school children, industrial workers, etc., and providing facilities for routine medical examinations.

6. Organized efforts to provide annual medical examinations for the population at large, through such agencies as the Life Extension Institute, medical examination clubs, national medical examination campaigns, etc.

7. The development under government auspices of expert itinerant advisory and consultant service for the general practitioners on diagnosis and treatment, covering difficult and doubtful cases in many of the specialties such as tuberculosis, infant welfare, internal medicine, etc.

8. Possibly the districting of medical service, at least to meet epidemic emergencies, leading perhaps to the setting up of competitive standards of excellence, graded on a basis of disease prevented and health maintained.

9. The reincarnation of the "old family physician," as the guardian of the family's health and the teacher of family hygiene—the treatment of the family to be carried out on the "keep well" basis, a practice erroneously said to be common in China, but one which shows definite signs of development in this country.

10. The further and more equitable development, as an experiment at least, of accident and sickness insurance, merely an item in the whole program of socialization, but one around which centers most of the storms of discussion at the present time.

HANDICAPS OF PRESENT-DAY PRACTICE

"The physicians are opposed to the socialization of medicine." Any one will tell us that, but is it true? Certainly they do not like the term. Certainly they do not favor health insurance. But that is only one aspect of the tendency so manifest today. Any one who has had any experience with the initiation of practically any of the phases of socialization enumerated above, with one or two exceptions, will testify that the physicians not only are in favor of the measures, but give them full coöperation and hearty support.

In fact, it would be difficult to imagine why the physicians should be opposed, why they should approve the *status quo*. Surely they are not in love with present conditions. The doctor accepts his lot with superior good-will, but he works in the face of almost intolerable obstacles. A few of the disagreeable elements which, to a great degree unnecessarily, burden the life of the general practitioner are:

1. More than any other occupational group the physicians are called upon to meet the demands of long hours, excessive over time, night work, etc.—all, with relatively few exceptions, for a "white wing's" pay.

2. Not only is he under-paid for the services he performs, but the doctor's collections are frequently poor. It is considered poor etiquette to be too "business-like" in insisting upon payment and he faces the subtle public sentiment that rather discredits the man in medicine who "makes money"—a condition that prevails in no other calling.

3. He is required to maintain the morale of the soldier—takes the risks of the soldier—yet there is for him no remuneration while in training, no promotion, no pension, no discharge—a life with the severest duties and with few rights.

4. From him is demanded more volunteer service, without compensation, or recognition, than is the case in any other profession.

5. While he may have been an excellent student in school, an enthusiast for research, a man who had genuine scientific interests, the economic pressure to which he is subjected in practice will not only give him no chance for continued study, but will often dull his sense of scientific values and his enthusiasm for worthy endeavor.

6. If a general practitioner striving to develop a specialty, he has to fight for every minute of time to study. Then, he must face that part of the public that sneers at specialists, and at the same time expects to find for a dollar office call all the specialties combined in one man—a surgeon, an ophthalmologist, a pediatrician, a tuberculosis expert, and what not, never realizing, in the words of the old adage, that "a jack of all trades is master of none."

7. Economic pressure, again, will probably prevent the devotion of his time and interest to the work for which he is best fitted. How many potentially excellent neurologists or research men are wasting their time on routine life insurance examinations, to eke out a living?

8. If he has devoted years to thorough training, he is still likely in some communities to find himself in competition with a graduate of a correspondence school or a night diploma mill.

9. He may start out with high ideals of service, with the desire to keep accurate records, anxious to meet his full obligations to his patients. How often does one see these early ideals recede with the hard earned knowledge into the dim past, in the face of competitive economic pressure for a living? How many men would like to keep accurate case records if time allowed? How many would like to act according to their conscience and perhaps call more frequently upon patients, if this did not have the appearance of selling them-

selves and forcing their services? How many would like to follow up their cases, preventing possible serious sequallæ, if time and custom permitted?

### GLORIES OF THE PROFESSION

This is the practice of medicine, except for the favored few. Does it mean an easy existence for the physician? Does it mean the best service for the public? Yet in spite of these handicaps, we find in every community many medical men performing a noble service under a tremendous burden. There is scarcely an American community without its old family physician, interested in all good movements, trusted with leadership in all vital matters, struggling along in poverty, concerned only with his obligations and opportunities for service and self-sacrifice. His example brings to us a realization that these limitations upon practical medical service, while they represent just grievances, are equally significant in reflecting the glories of the profession.

### THEORY OF MEDICINE

If this is the practice of medicine, what is its theory? Does the theory more nearly coincide with our ideals of what medicine should be?

The theory of medicine has developed in three stages: First, the physician existed as an individual in the community with the sole object of *making sick people well;* second, there was added the conception that he might also *keep people well*—a social conception, requiring organization, and hence our health departments and allied social devices; third, and finally, there is being added a new idea, namely, that the physician should not only cure sickness and prevent sickness, but he should also *create health.*

As the theory has developed, socialization has proceeded to attempt to put it into practice. How well it has succeeded must be more or less evident from what has gone before. In theory the physician exists to prevent sickness and to create health. In theory he is free to act as the noblest servant of mankind. In practice he is earning a precarious and meagre living in a competitive business. Is there needed a new coat for his wife? He must pray for an epidemic. In other words, his income depends on sickness and not on health. A community educated to the social use of medical machinery would reward its physicians for an increase in health and a decrease in sickness. The doctor is now penalized for this very combination.

Yet, in the face of these mal-adjustments worthy of Alice in Wonderland, the physician continues a glorious, if somewhat blind service to duty and humanity. Strangest of all, in spite of these discouragements, the majority of physicians seem willing to fight for the privilege of economic serfdom. Can this be anything more than a gross misconception of the objects and purposes of socialization, a tremendous ignorance of the benefits that lie along the path of social organization in medicine?

### OBJECTIONS TO SOCIAL MEDICINE

What indeed are the practical objections offered by physicians and others to these progressive developments in medicine? Consider only a few of the arguments presented against the social movement, arguments directed generally against the extension of social insurance, this being the line of social development most conspicuously and energetically promoted at the present time.

1. The injection of the State into the affairs of medicine will interfere with the normal relations between the physician and the patient.

Yet we have seen that this relation is largely an economic one, very unsatisfactory for both the physician and patient. The physician comes into contact with the patient only when called. He does not follow the case to a complete cure unless the patient bids him so

to do. To force his services when he alone may know how absolutely essential they are is out of the question. There is, in fact, in the existing relation very little to insure the proper care of the case, the protection of society, or the proper remuneration of the physician. There is a tremendous opportunity for improvement in this relationship. Indeed, if the present relation must be accepted as the "normal relation," then something decidedly abnormal would seem greatly to be preferred.

2. So-called "State Medicine" would seriously interfere with the physician's income.

Yet everyone knows how meagre and uncertain is the income of the average physician today. Besides, it is a reward for the amount of illness in the community, and not compensation for the amount of health preserved or created. Further, at present the physicians are performing only a fraction of the amount of work that needs to be done, and that will never get done under present conditions. For the additional preventive and creative work that should be undertaken under a reasonable arrangement, there would be supplementary remuneration for the medical profession. Socialization would quadruple the "business" of the profession.

3. Socialization would level downward.

A wise plan of State medicine, placing reward for service on an emulative basis, with a system of promotion from less important occupations (or possible districts) to more important ones, the standards being disease prevented, sickness cured and health created, would eliminate the unfit, elevate and standardize practice, increase compensation, and level upward rather than downward.

4. Socialization would eliminate "personality" from the Service.

It is true that certain steps toward socialization thus far developed do depreciate somewhat the value of personality. In hospital service this is undoubtedly a factor, the public wards being less attractive because of a relative lack of choice of physicians on the part of the patients.

Certainly, any wise system of public medicine gradually and cautiously developed along lines previously indicated, must recognize the "art" as well as the science of medicine, and must take every precaution to preserve the value of the personal elements. Of course this "personality" factor has disadvantages as well as advantages. The poorly trained quack frequently has more "personality" than the scientifically trained physician. On the other hand, higher and more uniform standards of training and practice would minimize the importance of the personal choice factor. There would be a leveling upward as to medical proficiency. Further, after all of the physicians, with the incompetents eliminated, were properly related to the community and the community's treatment facilities, such as hospitals, clinics, etc., there would be no question of inadequate hospital and medical relations, physicians without hospital connections, etc.

5. State control over the practice of medicine tends to make patients a litigation problem (particularly in health insurance) rather than a scientific problem.

In the first place, such a result could not fairly be called "socialization," for the primary aim of current social tendencies is to increase the scientific treatment of illness, to render more available the existing instruments for diagnosis and treatment, and to decrease the percentage of cases that go untreated altogether, scientifically or otherwise. As a matter of fact, the ordinary every-day practice of medicine as carried out at the present time could scarcely be made less scientific.

6. State control would make "the case" purely a scientific problem, ignoring the human factor.

This delightfully contradictory objection is often stated in the same breath with the one preceding, and answers itself.

7. Socialization tends to break down individual self-reliance, self-respect, and the willingness on the part of the patient to meet his own obligations.

It is claimed that of all the people needing or not needing treatment in a community, if treatment facilities are made too readily available and attractive, there will be a certain percentage who will take unfair advantage of the opportunity. These people, either not in need of treatment or quite able to pay adequately for private care, will fall back on the State, exaggerating trivialities, adopting malingering tactics, etc. According to the argument this is a load the State cannot afford to carry.

On the other hand under present conditions 70% or more of our population is in need of treatment, and largely fails to get it. This represents a much greater State liability and one which the State can much less afford to carry.

8. There will result a tremendously expensive and unwieldy political machine into the unsympathetic arms of which medicine will fall.

As a matter of fact, the largest element in such organization as may be necessary to administer the program of social medicine, would be the medical profession itself. Errors in the plan, defects in the provision for medical work, vicious manipulation of the system as a whole, can all be eliminated by the medical profession itself if it gets into the game in the beginning, shapes the development of the program, and contributes its constructive genius to the further growth of the whole system.

Undoubtedly it is up to the physicians to take the lead and initiative in the development of the social control of medicine. The movement should be governed from the inside and not from the outside. In this way only can the adequacy of the plan from the medical point of view be assured. Very significant is the statement of an English authority on this point (Sir Arthur Newsholme).

"It is, I think, clear that the State will year by year take an increasing hand in medical matters. It is useless, even if it were desired, to attempt to oppose the inevitable and desirable trend towards a vastly increased utilization by the State of medical science in the interests of humanity. It is for physicians to guide the course of events, and to insure that no plant is sown which will afterwards need to be uprooted; that no development is permitted which will hinder the fulfillment of our ideal."

### BENEFITS OF SOCIALIZATION TO THE PHYSICIAN

A few of the many advantages of a further social control of medicine to the private physician may be summarized briefly here. A social system properly planned should insure more regularity of service as to hours, a tremendous increase in the amount of worth-while work accomplished, an enhanced income, a reward on a rational basis of accomplishment, better opportunities to study and specialize, opportunity for expert consultation and coöperation, and the elimination of the necessity for frequently putting economic consideration ahead of the patient's welfare.

The individual trained to treat the ills of his fellow-man should be assured of an adequate income, not dependent on a chance excess of illness in his community. In medicine the relative cost factor should be eliminated both for the patient and the physician. Society cannot afford preventable illness. Society cannot afford to leave its elimination to a haphazard system in which the patient and the doctor make their decisions under the pressure of economic necessity. This ideal is approximated

even now in one form of socialized medical service, namely, the hospital. Here there are, for instance, laboratory and research facilities for all, rich and poor alike, and the cost factor is partially at least eliminated, the basis being service. The socialization of medicine should eventually eliminate from the physician's life this hampering element of economic pressure. The man who is teaching medicine as well as the man who is practicing it, should be free from worry and undue stress on the side of self and family maintenance.

### BENEFITS TO SOCIETY

Equally obvious must be the advantage to society. Through socialization in its many phases, every individual should receive the advantages of special facilities and expert service, regardless of his paying ability. From the social point of view, preventable sickness always is too expensive. We could afford to obtain medical service at any cost for the 70% in need of it, and not only for the few who can now afford it. If it is cheaper "to prevent than to cure," and if "a stitch in time saves nine," then the prevention, early detection, and adequate treatment of disease will materially lower the charges upon the community for illness costs. Finally, society would be operating on a rational, economically sound basis, utilizing its medical resources to the full.

### THE MAIN FACTORS IN THE PROBLEM

To summarize the outstanding factors in the socialization problem:

1. The problem is an extremely difficult one, dealing as it does so extensively with the human factor. It would be a stupendous error to leave out of the reckoning the element of human psychology in such an enterprise. Because of the difficulties, there are bound to be errors, false starts and partial failures.

2. The program needs the coöperation and guidance of the medical profession. To succeed, it must have their study, sympathetic criticism and constructive aid. For all of the medical work of the world, the medical examination work, hygienic education, the work among infants, in schools, in factories, etc., there will be necessary a most efficient system of medical service. Plans must be made to provide wisely for the increase in numbers of medically trained individuals needed under social control.

3. The medical profession is social in spirit, though in need of socialization as to method. Not so much can be said for the spirit and attitude of the general public toward the service which it expects from the medical profession. There is greatly needed an infusion of the spirit of service and community responsibility for disease control into the great mass of people everywhere. At present each individual thinks of his private health as a private matter. He calls the doctor only when he is sick—and frequently waits until 2 A. M. to do that. He wishes to maintain his earning capacity and avoid pain, but has very little sense of duty to keep well as an obligation to society. He does, however, think it is the duty of the doctor to make him well after he becomes sick—once more the duty being altogether on the side of the physician.

The physician has never had a real chance in social organization. He is only given the sick and relatively discouraging individuals to look after. He has never had an opportunity to keep the community well, to do a genuinely fundamental job.

In one of our largest cities, there are 10,000 physicians treating individual cases of illness and 300 or so (in the Department of Health, mostly on part-time) enjoying the privilege of keeping the whole people well. All should participate in this privilege.

The physician has been given a disagreeable, if not impossible task—that of putting together the pieces. It is to be hoped that before long he will de-

mand of the public the opportunity to share in the operation of community life as a whole. This apparently is dependent on the development of a spirit of service, a social attitude on the part of the public he seeks to serve. Little by little this *will to be healthy*, this essential counterpart to the spirit of service in the medical profession, is becoming a reality.

The object of medicine is a healthy community life. Up to the present time, however, the doctor has been expected to do all the work, either individually or through the gradually developing medico-social organizations. It is essential that we all do our part. The results of this inter-play and community of spirit will be an increased scope for the medical service, better training, greater uniformity of methods and higher standards of practice.

### THE SPIRIT OF SERVICE

In conclusion, what must be demanded are a maximum service for the sick regardless of their ability to pay, and a chance for the physician to give maximum service in disease prevention, treatment, and cure. The medical profession must be aroused to its opportunity and obligations. State and county medical societies, as well as the American Medical Association, could with advantage appoint commissions to study the whole problem of social tendencies in medicine, not only the health insurance piece-meal aspect of it. The problem should be approached with a sympathetic spirit of digested idealism. Certainly it would be a more valuable contribution for a medical society to study current needs and practices, to formulate a program, to help work it out in coöperation with social and health organizations, than, ostrich like, to stick its head in the ground and protest with its heels by the passage of a futile anti-health insurance resolution.

Let us remember that social medicine means the organized effective use of medical facilities, the rendering available of these facilities for all people in need —a service basis. This does not mean "state medicine," so-called. Any group in the community may employ medical devices socially. The school committee that employs a school doctor, the factory group engaging an industrial physician, the town or county civic or health committee or tuberculosis society that offers expert consultation services to the physicians and the people, the state department of health that districts the community for treatment purposes in influenza epidemic times, the state university, or state medical society, that attempts the post-graduate education and standardization of the medical profession—all of these movements, any collective movements that tend to improve and stabilize medical service, that render more nearly all of the resources of medicine available, for the masses of people, particularly for disease prevention and elimination, are social medicine. Social medicine is therefore simply community medicine. It may be under official or private auspices, local, state, or national control! Above all, it is not only health insurance. Indeed, experimentation might prove this particular device to be anti-social in character. The final test of any program is service rendered.

Social medicine will never spring full grown from the lap of the existing chaos. A practical working program must be conceived—a program through the gradual execution of which all may learn to "breathe the ampler air of service."

**In the January issue of the JOURNAL will appear the Symposium on Narcotic Drug Control as presented at the San Francisco meeting of the A. P. H. A.**

# STANDARDIZATION OF LABORATORY METHODS

AUGUSTUS B. WADSWORTH, M.D.,

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Address of Chairman before Laboratory Section, American Public Health Association, at San Francisco, Cal., September 13, 1920.

I WISH to make a few general remarks in regard to the standardization of laboratory work, a subject which is to be discussed by various speakers at this first session. The subject is appropriate for us to consider. The urgent need for the standardization of laboratory procedures has for a number of years engaged the thought of some of our best workers, and the Laboratory Section of the American Public Health Association has rendered notable service in formulating standard methods for routine work in laboratories.

I wish to emphasize the need for formulating definitely all the regular technical procedures to be used in routine work, and for strictly and faithfully seeing to it that these procedures are followed if satisfactory and uniform results are to be obtained from different laboratories. In short, the methods should be formulated and all work thoroughly supervised and controlled.

The technical procedures used in the laboratory for examination and analysis, for diagnosis or the treatment of disease, are the outcome of much research and investigation, and almost invariably have been due to the experienced work of eminent scientists. There is an early stage during which standardization is not desirable, in fact quite impossible; and the later stage during which it becomes more and more possible, desirable, and, ultimately, necessary.

Work and study must be expanded in every direction during the early period of experimentation and it must be carried on by qualified workers capable of interpreting the significance of their results, but in the practical application of these results, the field of investigation is narrowed and limited to the task of determining the precise technique which shall best accomplish the end in view.

At this point less experienced workers may carry on the work and, finally, the routine performances of the tests may be accomplished by technicians, trained perhaps in only one branch of work. In the development of laboratory methods there is a natural process of standardization continuously in operation, year by year. The development of laboratory work in medicine is characterized in its present stage by great variation in methods, due to the spirit of research and investigation which tests, compares, and ultimately improves existing processes. All of this work is of the utmost importance, and of course should not be discouraged, but this variation should not creep into the performance of practical tests, the results of which are to be used in the routine care of the sick. The results of laboratory tests must be uniform to inspire confidence, and uniform results can only be obtained by uniform methods. The need for standard methods in laboratory work is easily apparent, and especially where the development of a great volume of work is concerned which may include many thousands of cases of disease, situated at remote distances, instead of being limited to the study of isolated cases in hospital beds near by.

One of the chief reasons for the organization of the laboratory section of the American Public Health Association was to give laboratory workers an opportunity to meet and to discuss their methods of work. This original purpose of the Section has always been and still is of great practical value. The work

has gradually expanded through the activities of the committees that have been appointed from time to time to study and report on various laboratory methods. The standard methods for water and sewage analysis and the bacterial examination of milk, which have been formulated and several times revised, are notable examples of this pioneer work.

Successful standardization by the Section of the methods of different branches of the work is entirely due to the personal efforts of the members of the committees assigned to the task. Similarly, the failure in some cases to arrive at a satisfactory conclusion may possibly be attributed to lack of facilities or of experience on the part of the committee. The tasks have been arduous and thankless.

All of these difficulties of the committees of the Laboratory Section have been clearly recognized, and last year Professor Gorham recommended the appointment of a committee on standard methods whose duties would supplant those of all other committees on standard methods. This action would, I am sure, be a marked step in advancement, and would help to eliminate some of the difficulties which have beset the path of former committees. In my opinion, however, there should be a paid secretary whose duty it would be to bring together and to correlate in a business-like manner all the various activities of the section.

The character of its membership places the Laboratory Section of the American Public Health Association in a peculiarly favorable position to render a great public health service. The Association has no power to enforce its regulations, but must rely upon the accuracy and precision of its recommendations and the pressure of public opinion in order to have them adopted.

It is possibly largely due to the work of the Laboratory Section of the American Public Health Association that the United States government, through the Hygienic Laboratory at Washington, has developed a satisfactory control of the manufacture and sale of various biologic products in so far as they enter into interstate commerce. In this action our government followed the example of Germany, where these products had been for several years under government control.

In Germany many phases of laboratory work have been controlled by the government, but standardization is incomplete. In Great Britain and France control of standardization was not developed until the war. During the war the British Medical Research Committee undertook the standardization of laboratory procedures. An admirable series of reports is now being issued by this committee on the standardization of pathological methods. The committee also assumes the responsibility of directing the biological tests, and plans to issue licenses for the manufacture and sale of certain therapeutic products. Recently an international congress was held in Brussels to consider the practicability of obtaining standardization of laboratory methods through an international commission.

Excellent in many ways as has been Federal control through the liberal interpretation of the Interstate Commerce Act, it is becoming more and more apparent with the enormous increase in laboratory activities that the public welfare requires further safeguards. While the physician and the patient can be assured by government regulation of properly standardized antitoxin or arsphenamine, the laboratory where the diagnosis of diphtheria or syphilis has been made may be without control or regulation of any kind. The practicing physician and the patient are, in most instances, as unable through training to form a competent opinion of the technical procedures of the laboratory as

of the standardization of antitoxin or of the toxicity estimations of an arsenical product. Federal control as now limited to interstate commerce regulations, must necessarily be inadequate control.

Under these circumstances, the responsibility for supervision and standardization of laboratory procedures must become one of more local and sectional or of state concern. Since this problem is one which must be met in every state, the means taken by the State of New York to meet its obligations in this direction may be of special interest and value, although the work is still far from complete.

In 1914, in New York State, apart from the Federal supervision and control in interstate commerce of biologic products, there was no attempt at control or standardization of laboratory procedures. The public health laboratories of the state, of the cities and counties, all operated independently of one another. With the revision of the Public Health law and the enactment of the Sanitary Code, together with subsequent amendments, the necessary power was placed with the Department of Health to make possible the development of a broad policy of state control, and the standardization of all laboratory work outside of the City of Greater New York. This law, therefore, made possible the actual supervision of laboratory service to between five and six million population, since in New York State the regulations of the Sanitary Code have the force of law. Physicians and health officers were required to have laboratory examinations made for the diagnosis of certain classes of diseases and for the release of cases from quarantine. It was specified that these examinations should be made in laboratories which had received the approval of the Commissioner of Health, and that examinations made in laboratories not so approved were without legal standing and that health officers have no authority to accept them. Provision was also made for the inspection of laboratories by the Commissioner of Health or his representative.

It was recognized from the start that the carrying out of the policy of state supervision would be a matter of years, and that to be successful, the central laboratory must with painstaking care develop methods of standardization of the highest order, and tactfully help the smaller laboratories to recognize the value to themselves of state control. Growth would have to be gradual. The supervision of laboratories engaged in public health work, and the standardization of the technical procedures used in them, has been one of the functions of the Division of Laboratories and Research of the State Department of Health. The task has been doubly difficult on account of the war.

At first the inspection of all the public health laboratories of the state outside of the Greater City of New York was made to determine the character of the equipment and the personnel of the staff engaged in the work in each laboratory. Then minimum requirements for approval were formulated, and, to secure approval, the laboratories were obliged to sign an agreement to maintain these minimum requirements. These inspections and the agreements brought the central laboratory and the local laboratories into closer touch than had hitherto been possible. The central laboratory in Albany was then able to supplement and aid the local laboratories in their work, and to become a substantial support upon which they could lean in times of stress and emergency. Since many difficulties were encountered because of differences of opinion, conferences were held at intervals in order to provide opportunity for free discussion, and an association of public health laboratory workers of the state was

formed which holds one meeting in conjunction with the State Medical Society and a mid-year meeting at the central laboratory at Albany.

Furthermore, the different workers are brought into close, personal contact with the staff of the central laboratory. Demonstrations of new methods are made possible, and the standard methods of the central laboratory are available for inspection. The workers from different local laboratories are from time to time assigned to the central laboratory at Albany to be trained in the technical procedures of their work. Frequently the staff of some local laboratory is depleted for one reason or another, and an assignment of members of the central laboratory staff to this local laboratory enables it to carry on its work. Complete coöperation has been developed by such ways and means.

Meanwhile, the work of standardization has progressed, and minimum standards have been developed, increased and enlarged in scope to include not only the procedures that are required by law to be carried out in laboratories approved by the Commissioner, but other procedures not affected by these laws and regulations. These have been added to complete the standardization of laboratory methods, and to enable the local laboratories to standardize all of their work.

Recently an important improvement has been added, that of keeping records. At first the laboratories were only required to keep the records for a specified time, six months. The way in which the records should be kept is now definitely specified, and the forms for reporting have been standardized. It is apparently a small matter now to determine the practical efficiency of a laboratory in making examinations of permanent preparations, such as the examinations of diphtheria cultures. Comparison of the practical efficiency of distant laboratories in other diagnostic procedures was much more difficult, but it was accomplished by requiring the laboratories to forward duplicate specimens to the central laboratory at Albany, and by comparing the two series of results obtained. In other instances, specimens were prepared or selected in the central laboratory and sent to the local laboratories together with the clinical information necessary for examination and reporting.

Great stress has been placed upon periodic inspection, and now no laboratory is approved that has not been inspected as to equipment and staff, and also put to the practical test of securing uniform results by its standard methods.

As a result of all this experience with the standardization of laboratory procedure in New York State it is evident that for control to be effective there must be some authority to enforce standard methods and to supervise the laboratories that are using them. This authority may be legal as in the federal, state or municipal control of laboratory work or it may be simply that of public opinion as in the case of the standard methods of water analysis promulgated by the Laboratory Section of the A. P. H. A. But even these methods of water analysis have been recognized by the courts so that they now have become vested with some degree of legal authority.

Standardization, however, will fail, despite the fact that the necessary legal authority has been obtained and the necessary requirements prescribed, if constant supervision is not exercised by inspection and practical testing of the work of the laboratory. This is necessary for the maintenance of the equipment, character of the work of the staff, and the condition of the records.

# A CLASSIFICATION OF DIPHTHERIA BACILLI BASED ON THE TOLUIDIN BLUE-IODINE METHOD OF STAINING

HENRY ALBERT, M.D.,

*Professor of Pathology and Bacteriology, University of Iowa, Director, Laboratories for the Iowa State Board of Health, Iowa City, Iowa.*

Read before Laboratory Section, American Public Health Association, at San Francisco, Cal., September 14, 1920.

**Differential diagnosis of diphtheria bacilli has always been puzzling. This author discusses a special staining process which develops granules or bars, not visible with other stains. The new morphology affords criteria for determining non-virulent forms of bacilli. The author suggests and illustrates a convenient classification.**

VARIATIONS in the size, shape and structure of diphtheria bacilli were noticed soon after the discovery of the organism. It was also observed that these features had some relationship to the virulence of diphtheria bacilli, the more granular ones being, as a rule, more virulent than the more solid staining types. Neisser[1] believed that by the method of staining which he devised, it was possible to distinguish definitely virulent from non-virulent forms. Subsequent experience has, however, shown that not much dependence can be placed on the Neisser method nor any of its numerous modifications, such as those recommended by Beck[2] and more recently by Debrè and Letulle[3], in distinguishing those bacilli which are capable of producing disease from those which are non-virulent.

The most elaborate morphological classification of diphtheria bacilli suggested to date is that of Wesbrook[4]. This classification was made more with the idea of recognizing the frequency of occurrence of various morphological types of diphtheria or diphtheria-like bacilli than in distinguishing between virulent and non-virulent forms of the microorganism.

The chief criticisms of this classification are:

1. It is based on the staining of the bacilli by Loeffler's methylene blue, a method which does not have as great selective or differential value as have certain staining methods more recently described[5]. It does not differentiate the several types with sufficient distinctness.

2. Several of the types are apparently misplaced in the classification, as revealed by other methods of staining.

3. It is unnecessarily elaborate, there being no good reason for separating many of the types into such a large number of subdivisions.

The method of staining with toluidin-blue and iodine devised by the author[5]

1. M. Neisser: *Zur Differentialdiagnose des Diphtheriebacillus*, Zeitschr. f. Hyg., xxiv, p. 443, 1897. The formula for this stain may be found in any text-book on bacteriology.

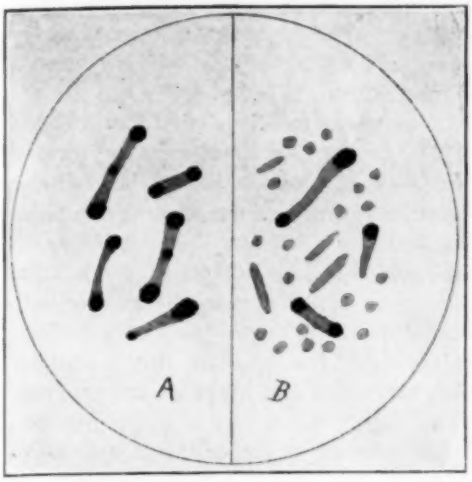
2. F. A. Beck: *Method for Staining the Diphtheria Bacillus*. Jour. A. M. A., July 13, 1918, p. 109.

3. Debrè and Letulle. Presse Medicale, 27, 1919, p. 515.

4. *Transactions of the Association of American Physicians*, 1900.

5. H. Albert: *A New Stain for Diphtheria Bacilli*. Jour. A. M. A., Jan. 3, 1920, Vol. 74, p. 29, also H. Albert: *Diphtheria Bacillus Stains with a Description of a "New" One*. A. J. P. H., April, 1920, p. 334.

PLATE I




Diphtheria bacilli stained by the Toluidin blue—Iodine method.
A—Typical diphtheria bacilli—pure culture.
B—Diphtheria bacilli and other bacteria, chiefly Staphylococci—culture from a clinical case.

indicates very clearly that the chromatic substance of diphtheria bacilli tends to collect at certain places which accordingly take a more intense stain, producing a barred and granular appearance.

The development of bars often precedes granule formation. In such cases the chromatic substance of the bars becomes concentrated in the form of granules and, at the same time, so changed that they will become metachromatic, that is, they will take a different stain from that of the remainder of the bacillus.

Although the rapidity with which granules develop depends somewhat on certain environmental factors, we have found that when the toluidin blue-iodine stain is applied to cultures of virulent diphtheria bacilli grown on blood serum media, many granular or granular and barred forms will always be present.

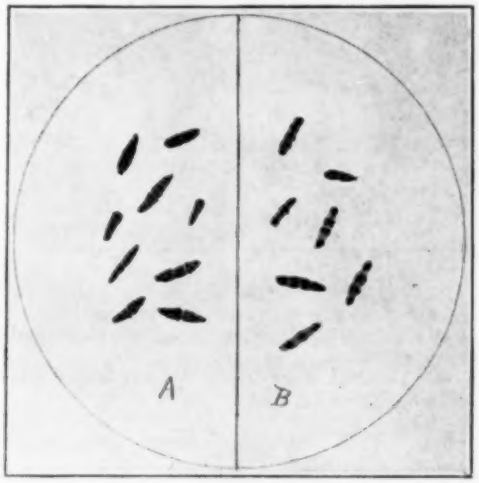
Three significant features regarding diphtheria bacilli, brought out by our stain as compared with the usual Loeffler's methylene blue, are:

1. Many bacteria of cultures which show only solid forms, by Loeffler's methylene blue, are barred or granular by the toluidin blue-iodine stain.

PLATE II

Variations in internal structure of diphtheria bacilli revealed by the Toluidin blue—Iodine method.
A—Solid forms.
B—Barred forms.
C—Barred granular forms.
D—Granular forms.

PLATE III




Short diphtheria bacilli stained by two different methods.
A—Loeffler's methylene blue (so-called solid form).
B—Toluidin blue—Iodine (barred and granular form).

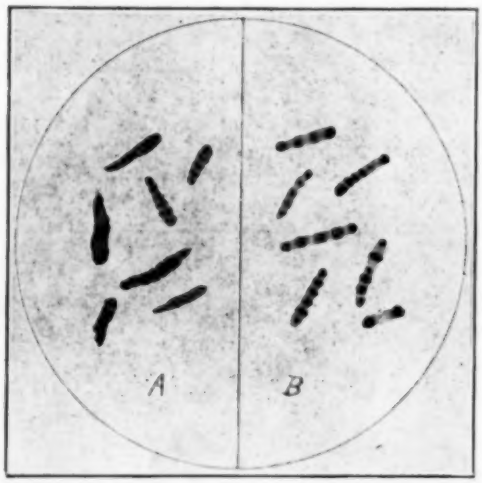
2. Many cultures showing barred but no granular forms by Loeffler's methylene blue, have many bacilli with granules, as revealed by our stain.

3. Although certain cultures showing only solid or barred types of the bacilli

as revealed by the Loeffler methylene blue stain, are virulent, no cultures that did not show some granular forms when stained by the toluidin blue-iodine method were found to be virulent. This conclusion is based on 126 virulence tests.

This is a point of great significance. By every other method of staining which we have tried we have been able to find some cultures, the bacilli of which were virulent but which did not contain gran-

PLATE IV




Difference in certain diphtheria bacilli as revealed by two different staining methods.
A—Loeffler's methylene blue (forms solid and barred, no granular).
B—Toluidin blue—Iodine (forms barred and granular).

ules. This does not mean that only virulent diphtheria bacilli contain granules but so far as we have been able to determine, all diphtheria or diphtheria-like bacilli which fail to produce some granular forms as revealed by our stain, are non-virulent.

In spite of the many objections that have been urged against a morphological classification of diphtheria bacilli, we believe that the following reasons will justify such a classification:

1. The advisability of recognizing different types of the diphtheria bacilli for purposes of comparison.

2. The relative permanence of type of certain cultures of diphtheria bacilli in spite of the fact that the morphology of many may be made to vary considerably.

Our classification of diphtheria bacilli based on the toluidin blue-iodine method of staining contains only barred and granular forms, since we were unable to find any virulent cultures which contained only the solid types. Aside from the club-shaped forms, the size is indicated by their length—as short, medium and long. Intermediate forms containing both bars and granules are common. The rather solid forms which are also seen may be regarded as immature or atypical forms. The classification includes the following eight types:

Granular G 1—short (1-2 $\mu$ long and with 1 or 2 granules).
G 2—medium (2-5 $\mu$ long and with 2 or 3 granules).
G 3—long (5-7 $\mu$ long and with 2-5 or more granules).
G 4—club-shaped (2-6 $\mu$ long and with 1 to 5 or more granules).

Barred B 1—short (1-2 $\mu$ long and with 1 or 3 bars. When 2, they are usually at the ends giving the bacillus or diplococcus or diplobacillus appearance).
B 2—medium (2-5 $\mu$ long and with 3 to 4 or more bars).
B 3—long (5-7 $\mu$ long and with 3 to 6 or more bars).
B 4—club-shaped (2-6 $\mu$ long and with 1 to 5 or more bars).

The following plate, V, represents the classification in graphic form.

The following table presents the types of the classification just given with the corresponding types of Wesbrook's classification:

| Author's types (Stain-Toluidin blue-iodine) | Wesbrook's types (Stain-Loeffler's methylene blue) |
|---|---|
| $G^1$ | ....E. F. G. (also some $D^2$, $E^1$, $E^2$, $F^2$, $G^2$). |
| $G^2$ | .....C. D. (also some $C^1$, $C^2$, $D^1$). |
| $G^3$ | ..... B. (also some $B^1$, $B^2$). |
| $G^4$ | ..... A. (also some $A^1$, $A^2$). |
| $B^1$ | ..... $C^1$, $C^2$, $D^1$. |
| $B^2$ | ..... $D^2$, $E^1$, $E^2$, $F^2$, $G^2$. |
| $B^3$ | ..... $B^1$, $B^2$. |
| $B^4$ | ..... $A^1$, $A^2$. |

Of special significance is the fact that Wesbrook's solid forms fall, for the most part, in the group of barred bacilli when stained by the author's method. Many bacilli of the Wesbrook type fall into two of the groups of the author's classification. Thus many of Wesbrook's solid forms contain granules or bars or both when stained with the toluidin blue-iodine method. (See plates III and IV.)

SUMMARY AND CONCLUSIONS

1. Present classifications of diphtheria bacilli from morphological and staining reaction points of view are of comparatively little value since they do not enable virulent diphtheria bacilli to be distinguished from non-virulent forms. The best known of these classifications, Wesbrook's, is also needlessly elaborate and unwieldly.

2. The toluidin blue-iodine (author's) method of staining by virtue of its selective staining effects on diphtheria bacilli has the following distinctive advantages over the usual (Loeffler's methylene blue) method of staining:

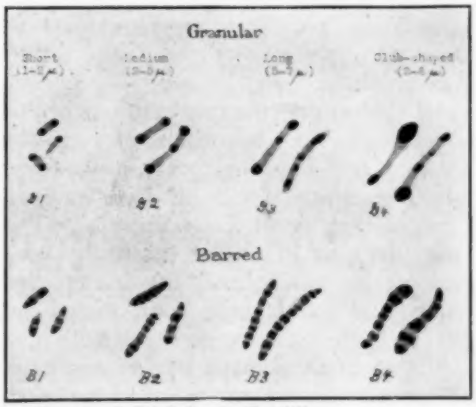
a—Many bacilli of cultures which show only solid forms by Loeffler's methylene blue, are barred or granular.

b—Many bacilli of cultures which show only barred forms by Loeffler's methylene blue, are granular.

c—No cultures which did not contain some granular forms, when stained by the toluidin blue-iodine method, were found to be virulent, whereas certain cultures showing only solid or barred types as revealed by Loeffler's methylene blue are virulent.

3. Although certain non-virulent diphtheria bacilli contain granules when stained by the author's method, all diphtheria or diphtheria-like bacilli which fail to produce some granular forms by this method were found to be non-virulent. This is not true of any other method of staining.

PLATE V




Types of Diphtheria Bacilli.
Based on the Toluidin blue—Iodine method of staining.
G2 = Granular medium.
B4 = Barred club-shaped.

4. A classification of diphtheria bacilli based on morphology and staining properties is desirable not only for purposes of comparison but also because of the relative permanence of type of certain cultures.

5. The author's classification of diphtheria bacilli based on the toluidin blue-iodine method of staining, contains eight classes—four granular and four barred. Intermediate forms containing both bars and granules are common. The rather solid forms may be regarded as either immature or atypical.

6. The author's classification includes the following types: G1 (granular short); G2 (granular medium); G3 (granular long); G4 (granular club-shaped); B1 (barred short); B2 (barred medium); B3 (barred long); B4 (barred club-shaped).

# RELATIVE FUNCTIONS OF OFFICIAL AND NON-OFFICIAL HEALTH AGENCIES:

## A SYMPOSIUM

### INTRODUCTION

The immediate interest in this question was excited by an article contributed to the JOURNAL for November, 1919, page 827 *et seq.*, by H. W. Hill, entitled, "What is the Matter with Public Health?" In this Dr. Hill suggests that the official health officer has police powers which are oftentimes neglected to take up voluntary work not really within his province.

He states that the conscientious health officer who does his whole duty against disease will have his hands full, while the non-compulsory fields have staunch and willing workers waiting. As to the program of public health he considers it no longer a matter for individual communities to face and believes in "a nation-wide coördination, a building of individuals into compact organizations, coöperation of these with each other, and a close coöperation, but not union, with the official police powers."

In the JOURNAL for December, 1919, page 951 *et seq.*, is a reply to Dr. Hill by Dr. Carl E. McCombs, entitled, "Public Health Departments and Private Health Agencies." Dr. McCombs holds that health officers should undertake all kinds of health work, that divided responsibility will result in lowering standards, that compulsory health work is dependent upon the educational preparation of the people and this to be effective should be brought to the public by the one who has official authority, namely, the health officer.

In the August, 1919, JOURNAL, page 673 *et seq.*, Dr. Hill reiterates his earlier convictions. His statement is, in brief, that the health officer should assume no more duties until he is able to accomplish his existing ones, and should leave to voluntary associations the largely experimental, wholly voluntary activities which include oftentimes therapeutics and general hygiene. Health officers should first accomplish what he terms, "their notoriously neglected first duty, the control of infection," and then if they wish, ask for popular support and sympathy. He does not believe that health officers as a class should undertake the education of the public, he thinks that they are not authorized to undertake education, therapeutics and hygiene, not able at present to do it and that it would be unwise for them to enter just now into this field.

In view of the importance of the matter and the evident interest aroused it was decided to present the subject with discussions at the meeting in San Francisco. Dr. Emerson and Dr. Hatfield, whose papers follow immediately, agreed to present arguments from the point of view of the official agency and the non-official one, respectively. At the meeting there was much discussion, the occasion being the General Session of Monday evening, September 13. These discussions may be found in the report of that meeting, in this issue of the JOURNAL, page 957 *et seq.* Just before the meeting the view presented by Dr. Nesbitt was received, and although it could not be included in the program, it is here given as part of the symposium, while the paper presented before the Massachusetts Association of Boards of Health at its October meeting in Boston, presents the view point of an experienced Eastern health officer. Before the annual meeting of the Canadian Public Health Association in June last, Dr. W. H. Hattie read a paper entitled, "The Coördination of State and Private Enterprises in Public Health Work," which gives the view point of an official outside of the limits of the United States. It is also presented here.

# RELATIVE FUNCTIONS OF HEALTH AGENCIES
## I. VIEWPOINT OF THE OFFICIAL AGENCY

HAVEN EMERSON, M. D.,
*New York City*

Read before General Sessions, American Public Health Association, at San Francisco, Cal., September 13, 1920

DEFINITIONS should precede discussions, and agreements upon premises is the best insurance for good reasoning, so in the presence of the officers of all varieties of health agencies, little or big, official and non-official, I may be permitted as a representative of that health organization of longest standing, the medical profession, to introduce for the consideration of those who will follow, those more experienced in health administration, the topic of the meeting.

As we find in the practice of medicine among individuals, errors of physical structure and of function which must be prevented or relieved, so we find in communities very similar disturbances of social structure leading to those disorders of functions of which the results are expressed in high morbidity and mortality rates. We face today a complexity of the methods and personnel required for a group or clinic diagnosis of individual human ills almost as great as the organization of the human body itself. Parallel to this development in the machinery for diagnosis and treatment of disease in the individual, there has grown up in a similar orderly fashion and with an entirely comparable object the structure of so-called public health agencies whose functions are, first to arrive at a diagnosis and then to apply the appropriate remedy.

We are to consider today the functions, not of the patient but of the physician, not the technic of diagnosis or the theory of therapeutics, but the manner of work of the guardians of the public health, not the organization of the machine, the morphology of the organ, but the uses the agencies are put to.

We are not at the moment engaged upon a study of the equipment of the community's composite family physician, the official and non-official health agency, nor yet his educational qualifications, but the primary objects of his life.

From the moment that mind of man conceived the two facts of communicability and preventability of disease health organizations became inevitable. When the group, the *demos*, decided that no unit, no *homo*, was of so much value that he and his possessions should be permitted to jeopardize the safety of the race, the nation, the village, the household, laws erecting the machinery of health administration were passed.

When the limitations of exact science and human skill in detecting disease were recognized and the role of the person rather than of the premises, or of the material thing or object, in causing disease was made plain, personal hygiene became an objective to supplement sanitation, or in other words education grew in importance as compared with the enforcement of laws.

As long as man progresses he will search for new facts to explain old ones, he will test theory with facts, he will compare old methods with new. Wherever the laws of supply and demand fail to meet the needs of a community for the diagnosis, the preventive and curative medical and associated services for the sick, the community looks to its health agencies, private and public, to supply what the individual physician or voluntary associations of physicians have not given it.

There have been developed in public

health agencies the six great functions which may be called control, diagnosis, education, research, treatment, contact. There is a distinction implied in the title "official and non-official," which would perhaps be better indicated by using the terms obligatory and voluntary, suggesting that the former are created under the laws of the nation or one of its political subdivisions to fullfill recognized government functions and are supported by each and every tax payer, while the latter spring from the imagination and altruism of the few, derive their authority from the broad tolerance of the community or from its needs, and live on the self-imposed contributions of a small minority of the population.

With a few important exceptions the objectives of the government and of the citizen agencies are the same and I believe there is no function served by any voluntary agency that is not authorized and in some way served by one or more, of the tax payers' health agencies. It would be difficult to point to any useful field of activity, or function contributing to public health, that is not made possible by enabling laws for the United States Public Health Service, for the Ministry of Health of Canada or for the Departments of Health of many of our states and municipalities. In fact, it is probably correct to say that even an unwilling legal interpreter of the statutes could not deny the rights of the Surgeon General of the United States Public Health Service or the Commissioner of Health of the City of New York to carry on any or all of the activities which even the teachers and theorists in public health have proposed as desirable or the sociologists and statisticians have proved to have a bearing upon the duration of life and the development of vigorous health.

The functions of official, compulsory tax-supported health agencies are comprised within six main groups and those of the non-official, voluntary subscription or donation-supported health agencies, are largely limited to four of these:

Inspection and Control.
Diagnosis or Epidemiology.
Education or Interpretation.
Research and Demonstration.
Treatment, preventive and curative.
Contact and Coöperation.

Of these, the last four occupy the energies of and offer an almost unlimited field for legitimate and useful service of the non-official health agencies.

**Inspection and Control:**—By inspection and control are meant those specified functions for which health officers are held responsible under the law, those functions depending on right of entry and the privilege of examining suspected persons, premises or possessions for causes or cases of preventable disease. In this group fall the control of food and drugs, the general functions of abatement and control of sanitary nuisances, the control of all manner of preventable diseases whether communicable, occupational or due to habits, where exposure to the cause of disease and disability is not wholly under the control of the individual exposed. Whether we deal with international quarantine, with interstate traffic in drugs and food, or with hazardous trades in industrial communities as health problems, the principle is the same, is accepted in law and is supported in the courts when enforced; namely, that the health of the individual is a public asset in which the civil government has an interest and for the protection of which broad police powers may be exercised. It must be obvious that this not a function which can properly be delegated to any agency other than one specifically authorized by law to employ that very jealously guarded right to invade the home and approach the person of those not accused of crime. Even in small ways where this function is found to be served by delegation to a private agency, because of inadequacy of public service person-

nel, the impropriety is evident, the success of such delegation doubtful and the damage to good administrative policy is considerable. I have in mind a city where the enforcement of a local ordinance requiring the inspection of day nurseries is delegated by the Commissioner of Health to the local Day Nursery Association. The secretary of the association has served as the inspector but she is responsible for her position to the directors of the very institutions she is expected to criticise and if necessary to close, and not to the Commissioner of Health, who has no authority over her. The result has been lax and inadequate compliance with the law. Such functions, i.e., inspection for and control of standards required by law should not be attempted by non-official or private agencies nor should they be permitted to enter this field.

**Diagnosis or Epidemiology:**—By diagnosis or epidemiology is meant the series of closely coördinated processes including the collection and tabulation of vital statistics, the analysis of reports of field work as of diagnosticians, school medical inspectors, visiting nurses, sanitary and factory inspectors which are required, to permit of the formation of an opinion by the health officer or his epidemiologist upon any variation from sound community health. This is the function which can be compared with the obtaining of the past history, the chief complaint, the physical examination, the laboratory evidence, all elements contributing to diagnosis of disease or estimate of approximate health in a private patient. Epidemiology is the science or study of disease as it occurs in groups, and, as I conceive it, this is the most important professional function of the director or chief technical officer in any organization devoted to health development and protection, and to serve this function we find records kept, of births, deaths, morbidity and the wide range of population phenomena by which we detect the signs of early disorder, the degree of the injury while it is in progress and from which we calculate loss in numbers, strength and quality in the community. This function is in its strict professional sense served only by the official public health agency because only here is to be found all the information upon which all aspects of a community's health can be judged. There are, however, in the fields of tuberculosis, venereal disease, child hygiene, mental disease, cancer, cardiac disease, blindness, etc., national, state and local health agencies which have made and are now making studies which in some localities are more complete and useful than can be found in the offices of the respective departments of health. Non-official health agencies are rarely so organized as to provide the quality of overhead staff officers, the expert field agents, or are old enough to have that long continuity of records, observation and experience, necessary to permit of scientific epidemiological work. They must in any event if they would escape the fate of the private specialist who never acquired a broad foundation in general medicine, refer to the official agency for much of the comparative data and supporting facts.

Real epidemiological work is being done by the International Health Board, by the Metropolitan Life Insurance Company, by the New York Tuberculosis Association, and much valuable contributory information has been developed and used effectively by other non-official health agencies in various specialties of preventive medicine. There is a feature of this work by non-official agencies which is worth noting because of the similarity of it to non-official diagnosis in private practice of medicine. The licensed practitioner as well as the official public health agency must bear the responsibility for opinions expressed, and there is no escape for him from errors of judgment and opinion. The voluntary

diagnostician is often free with his opinions because he cannot be held responsible for the results. So we see occasionally communities suffering from too much self-medication, in the form of hysterical educational propaganda arising from irresponsible diagnosis of the public's ills. There is nothing so stabilizing or so conducive to humility as to attempt to arrive at a diagnosis and prescribe treatment for the results of which you will be held personally and officially responsible. It is this permanent enduring responsibility which tends to make the health officer offer more conservative advice than his prototype, the director of the volunteer agency, sometimes proposes, whose courage, initiative and originality are often more of an asset to him than a sound knowledge of the pathology of communities.

So, if one must select among the functions which are more appropriate to the official than to the non-official health agency, we are forced to assume that inspection and control together with diagnosis or epidemiology are chiefly and more appropriately, if not at all times exclusively, functions of the tax-payers' agency than they are of the volunteer or non-official health agency.

**Education and Interpretation:**— Under education and treatment, synonymous terms in great part, we include the functions which deal with application of preventive medicine to the mass, the details of instruction to mothers, to lead workers, to people with colds, to janitors, householders, users of privies and wells, to farmers, legislators, to school children, and to communities in the midst of epidemic disease. This is the direct advice of the community's physician to his clientele, his one and yet multiple patient. Here we find the greatest field for the non-official as well as for the official agency. Has not every non-official health agency owed its birth to the determination of a group of men and women, usually a majority of them physicians, to do something to bring knowledge into use? Enough facts have been known for decades which if applied would have salvaged not less than half of our annual wastage from disease, but the facts were not distributed, or if so were not accepted, or if accepted were misapplied. Here is common ground. Common in objective, identical from the basis of facts, but varied as the minds of men in application. Here we need the tempting approach of the teacher, the lure of the lecturer, and all the ingenuity of the fanatic who believes that ultimate salvation depends on knowing how to boil a diaper, or sterilize milk, when and what to eat, why air must be clean, cool and circulating, and the necessity of coming clean to table, the value of continence, of recreation, of annual medical examinations, etc. Here is a free-for-all, a career calling for the best which the Health Officer and the Executive Secretary or Director of a national volunteer agency can develop. And yet nothing in all the field of public health work is so full of confusion, or has been so wasteful, so inefficient, so inaccurate, so baffling to the consumer, the public to be taught. A chief diagnostician is of no use if the treatment is given helter skelter by all the neighbors, if advice is the product of imagination rather than of a knowledge of facts.

Direction in this function of education should come from the community's physician, for in education there will always be the elements of inquiry and response, and give and take of class room, and it is my opinion that the health officer if he is in any way alive to his opportunities and is a responsive member of his own community learns and knows more of the reaction, the response to educational propaganda than the private or special agent can know. The health officer is hampered by limitations of appropriation, by an overwhelming detail of duties calling for incessant labor and there is usually lacking the opportunity to stand apart and with academic peace

of mind construct a campaign or prepare appealing statements. No field of endeavor, no function, no accomplishment offers more rewards to the non-official health agency than does this of education, and the great popularization of interest in national health is largely due to the work of such as are here represented. The interest is aroused, but it remains to establish knowledge in the minds of the people of the few simple facts which the individual must himself apply in his personal conduct and habits of life before it can be said that permanent results have been obtained. To my mind the plan and text of all educational material issued by non-official health agencies should be submitted, as to a censor, a friendly and eager consultant, to the head of the official health agency responsible for the population to be approached. And on the other side I believe the public health officer is not honestly serving his community patient unless he includes and amalgamates in any educational effort, initiated in his office all of the other resources, non-official, volunteer, or tax-supported which can be persuaded to take part and contribute to the distribution of fact and argument. Interpretation and explanation of science are as much the duty of health agencies as they are of schools and colleges.

**Research and Demonstration:**—Research is merely another name for study, and without study, dry rot soon devitalizes any agency. Atrophy, gangrene, senility are the penalties paid by any organization that is without provision for self analysis, for experiment, for advance into the borderline, where general principles must be made to give way to the gentle but insistent pressure of the new small fact, the little disconcerting bit of proof which throws into the discard our older habits of thought and action. Routine is constantly fighting innovation. Openmindedness struggles against complacency. A single unit, if nothing more, must be provided in every agency, even if it be no more than a compartment in the director's mind which is always asking questions. Is isolation necessary? Do smells cause disease? Have we taught any one by a "movie" picture? Is worry or work the cause of fatigue? Is it lack of sense or lack of justice, that gives the poor a high death rate? Have we learned something new or merely rediscovered old facts?

Here, as in Education, there is no let or hindrance to the human mind. There can be no preemption of the field of research. Direction and a joint endeavor are of the essence of modern study, but it is better to allow free rein to the spirit of search, to the sleuth hound of science than to attempt any handicap or restraint. No personal or official reputation is so precious that it has a right to protection against truth. No official may long evade the embarrassment which comes from the disclosure that his executive acts have been based on misconceptions or misinterpretation of facts.

It is particularly in the field of that corollary of research, the proof of the fact by demonstration that the non-official health agency makes a most valuable contribution. Quick to act, free from precedent, single minded, clear in objective, the non-official agency can devote itself in the spirit of the crusader to make the little flame of fact illuminate a nation and salvage a race. It is to the everlasting glory of our brotherhood that what can help mankind to conquer disease is a matter of international gift. The demonstrations of the means and results of life saving come as near to the miracles of religious history as we can conceive and still retain our critical judgment.

**Treatment, Preventive and Curative:**—The function of treatment of disease has so long been presumed to be exclusively that of the medical profession engaged in the practice of medicine that the inclusion of this function among those of official and non-official health agencies requires a brief explanation.

Now that we recognize that prevention requires diagnosis as well as the treatment of already existing disease, we must provide at least as skilful and well coördinated diagnostic service for the well as in the past have been provided for the sick. It takes, if anything, more skill and more delicate appreciation of symptoms and finer qualitative analysis in the laboratory to catch the early evidence of approaching deterioration or onset of disease than it does to make a diagnosis in a well established case of sickness. So, it falls properly within the province of the public health agencies, both official and non-official, to see that opportunities and facilities for examination for the detection of health are provided. Up to the present time the medical practitioner has been so involved and his time so fully occupied in the diagnosis and treatment of disease that he has not carved out a career for himself, individually or collectively, in this new realm of medical practice.

Furthermore, in many parts of this country and now of other countries, sadly stripped of their physicians by war and pestilence, the natural distribution of physicians fairly, adequately, and uniformly through the population has been disturbed and we find in the larger cities and in the centers of prosperity more physicians than are needed, if their services were well organized, and a dearth of physicians, nurses, hospitals and dispensaries in large rural areas where the most helpless and on the whole most needy of our population are found.

Sickness breeds sickness and since early detection of disease is the key to disease control, community organization for health protection, whether official or non-official, cannot escape the responsibility nor should they decline the privilege of organizing services, both personal and institutional, for the diagnosis and the preventive and curative treatment of disease. The expression of this need has already appeared in the assumption by public health departments of a great variety of diagnostic clinics for tuberculosis, venereal disease, infant welfare, pre-natal care and so forth, and now we see in the health center, adjacent if not incorporated activities of actual group diagonsis and dispensary care alongside of the prophylactic facilities previously considered the limit of health department dispensary work.

What appears to be the most important single move in this direction is the proposed legislation authorizing communities of the state of New York to support by taxation, under the auspices of the State Department of Health, diagnostic and medical and nursing treatment services with all the benefits of a consultation group. In this field it is to be hoped that the non-official agency will, as in the tuberculosis and child hygiene movements, serve to demonstrate the need until such time as the tax-payers can be convinced that this is as legitimate a function of government as are public education, police protection or fire protection services.

**Contact and Coöperation:**—By the words contact and coöperation are meant those functions through which both official and non-official health agencies maintain affiliation not only among themselves but with the community as a whole. Neither the health officer nor the executive secretary of the private agency can feel that his office is adequately served if he has omitted to provide for liaison of the most intimate and enduring quality with the widest possible range of organized groups, whether these are departments of government or represent the spirit of private initiative. Jealousy and suspicion have no part in the make-up of public health work and competition should be in the direction of excelling in good services rather than in exclusiveness of action or objective. In this function, as in most of the others above described, it should be upon the health

officer that the responsibility for initiative falls and such coördination as is required should be at his request and with his full knowledge. In theory this may be accepted, but as a matter of experience no such exclusive leadership, dominance or control can be accepted while public health administration is blighted by party politics, and personal ambitions block community volunteer efforts.

Why are all the possible good deeds for health's sake not performed adequately by the official health agencies? Not, I believe, in the main because of lack of imagination, lack of courage or lack of knowledge on the part of directors of public health service, but chiefly because of lack of appropriation and insufficient support from public opinion. It is to develop willingness to make appropriation after education of the public in the needs of public service for health that the non-official health agencies can serve, in standing shoulder to shoulder with the health officer when he appears before the public—either in mass meetings or before appropriating bodies of the government.

Until our crude and incomplete machinery of civil government, our very haphazard and discontinuous service of the people through elected and civil service employees is perfected to meet in its entirety the natural ambition and legitimate desire of people in cities and on the farm for education and protection which will permit "growth to be more perfect, decay less rapid, death more remote and life more vigorous and successful," there will continue to develop from the hearts and with the ready hands of the community those supplementary agencies which have become so numerous and active as almost to embarrass us with their prodigality.

There can be but one master of a ship, and in organization leadership cannot be divided nor responsibility evaded. Leadership and responsibility must be carried by the official public health agency. It is my belief that the most rapid progress towards economical and efficient public service for health protection, perhaps the most democratic service which can be rendered by a government, should be accomplished through the acceptance of direction and leadership from the officers of the official health agencies. The time has not yet arrived when the permanence, the disinterestedness, the capacity for intellectual leadership can be found widespread among health officers to justify our sacrificing the precious spirit of individual non-official initiative, for the sake of the entirely logical relationship just suggested. As an association, we have, ourselves, recommended the policy of centralization within one department or bureau of the Federal Government of all Federal health agencies. Perhaps the most important guarantee of our sincerity in this matter would be to provide, at the earliest opportunity, for a merger of organization and interests of private health agencies under some central body, comparable to the Federal bureau which we picture as desirable in the official field.

I trust that in defining my own conception of the functions of official and non-official health agencies I have in some measure clarified rather than confused the subject of the session, and that those who follow may etch out more clearly the details of the picture I have sketched.

**The Symposium on Smallpox from the San Francisco meeting will be an attraction of one of the issues of the JOURNAL early next year.**

# RELATIVE FUNCTIONS OF HEALTH AGENCIES
# II. VIEWPOINT OF THE NON-OFFICIAL AGENCY

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As a prelude to a discussion of the proper functions of a non-official health agency, it is of interest to know something of the history of such organizations in the United States. A brief and incomplete chronological list of some of these agencies will answer our present purpose. It is as follows:

1844 American Medico-Psychological Association.

Purpose: Discussion of medical topics, chiefly relating to the care of the insane.

1847 American Medical Association.

Purpose: To promote the science and art of medicine and to endeavor to unite in one compact organization the medical profession of the United States for the purpose of fostering the growth and diffusion of medical knowledge.

1872 American Public Health Association.

Purpose: Development and advancement of public hygiene; correlation of principles and practices; and the promotion of public hygiene as a distinct profession.

1874 American Purity Alliance.

Purpose: Moral education, social hygiene.

1876 American Association for the Study of the Feeble-Minded.

Purpose: To discuss all questions relating to the causes of feeble-mindedness and the condition of the feeble-minded; to consider their management, training and education, and lend influence toward the establishment of institutions for their care.

1876 American Academy of Medicine.

Purpose: Study of social medicine or the sociological problems having medical factors.

1901 National Association for the Study of Epilepsy and Care and Treatment of Epileptics.

Purpose: To stimulate interest in epilepsy and epileptics along social and medical lines, especially to advocate public care in separate institutions where research may be carried out.

1904 National Association for the Study and Prevention of Tuberculosis.

1905 American Society of Sanitary and Moral Prophylaxis.

Purpose: To limit the spread of diseases which have their origin in the social evil; to study every means, sanitary, moral and administrative, which promises to be effective for this purpose.

1906 National Vigilance Committee.

Purpose: Protection of women and girls and the suppression of the white slave traffic.

1907 Committee of One Hundred (of the American Association for advancement of Science) on National Health.

Purpose: To establish in Washington a National Department of Health; to educate public opinion in health matters; and to further health legislation.

1908 Committee on the Prevention of Blindness of the Russell Sage Foundation.

Purpose: To conduct a national campaign for the prevention of blindness and to take such measures in coöperation with the medical profession and others as shall lead to the elimination of such causes.

1909 American Association for Study and Prevention of Infant Mortality.

Purpose: Study of infant mortality

in all its relations; dissemination of knowledge concerning its causes and prevention; and the encouragement of methods for its prevention.

1909 Rockefeller Sanitary Commission.

Purpose: Eradication of Hookworm disease.

1912 The American Social Hygiene Association.

Purpose: For the conservation of the family, the repression of prostitution, the reduction of venereal diseases, and the promotion of sound sex education.

1912 National Child Welfare Association, Inc.

Purpose: Originates and publishes exhibit material which visualizes the principles and conditions affecting the health, well being and education of children; coöperates with educators, public health agencies, and all child welfare groups in community, city or state-wide service through exhibits, child welfare campaigns, etc.

1912 National Organization for Public Health Nursing.

Purpose: To stimulate the extension of public health nursing; to develop standards of technique; to maintain a central bureau of information.

1913 American Society for the Control of Cancer.

Purpose: To disseminate knowledge concerning symptoms, diagnosis, treatment and prevention.

1917 Child Health Organization of America.

Purpose: To arouse public interest in the health of school children; to encourage the systematic teaching of health in the schools; to develop new methods of interesting children in the forming of health habits; to publish and distribute pamphlets for teachers and public health workers and health literature for children; to advise in organization of local child health programmes.

We may believe that the reason for the formation of these associations was in every case the need of investigation, education and official action in connection with the phase of public welfare towards which attention was directed. Recognition of this need at the time it is recorded may be explained perhaps as a manifestation of some movement in community or individual psychology, through which a group of individuals was brought to see what was needed and was induced to attempt to meet the need. The underlying purpose was without doubt to supplement and to develop existing health agencies. It would seem that this is a fair statement of the proper purpose and general function of any non-official health agency.

In discussing the correlation of health activities from the view-point of the non-official agency, we must start with complete acceptance of the fact that the duly appointed health officer is the sole agent responsible for the health of the territory he represents. His functions are obligatory, and no part of the obligation can be handed over to others. When the organization of our communities has reached the point of universal completeness; when all our officials are all wise, and are striving only for perfection; and when the public is educated to a point where it can recognize its needs and will provide money in sufficient quantity to enable the officials to meet the needs, then it may be useless to consider the functions of non-official health agencies. But that time is not yet come. In most places officials and official action are not yet perfect; the public is not yet thoroughly aroused and educated; and we must admit that any aid toward the desired end is welcome, provided it is properly worked into the general plan.

The reason for existence of the non-official health agency is the imperfect provision of facilities for our official health agencies. Its primary function therefore is to supplement and assist the official health agency in whatever way it can.

There are, of course, certain functions of the official agency that a volun-

tary agency cannot touch. These are the right of control or quarantine, and the determination of disease—epidemiology. As the official agent has the ultimate and legal responsibility, he only has the right to exercise these functions.

In other directions, however, there are definite lines of activity on which the voluntary body may properly help. They are all educational, but may be differentiated under the heads of Legislation, Education, Research, Demonstration, Standardization, and Coöperation. Under each of them, the non-official agency may have a useful part to play.

**Legislation:**—The first may be dismissed in a few words. Certainly we do not wish or need a constantly increasing set of laws. But in a state that has inadequate or badly drawn laws governing public health, and when a campaign for the revision and perfection of such laws is necessary, the non-official body has a duty to perform. Health legislation must always be watched and legislatures must be educated. Attacks on existing health regulations by Christian Scientists, anti-vaccinationists, and anti-vivisectionists are never ceasing. To assist in warding off such attacks is properly a function of the voluntary agency.

**Education:**—Education of the public as to the facts of community health, and the stimulation of the body of citizens to demand their dues, and to demand also that their health official be supplied with proper facilities for doing his work, this, perhaps, is the most important function of a voluntary agency. There are, moreover, reasons why such forms of popular education may be carried on with peculiar fitness and effectiveness by a non-official agency. In our country official pronouncements do not always fall on attentive ears, but we are interested when a friend or someone whom we know by reputation makes a statement that concerns us. Thus the individuals grouped together voluntarily can each be a center from which authentic information radiates. Theoretically at least, the effect of educational propaganda is multiplied by the number of active members in the voluntary agency.

**Research:**—Recognition of the need of research or investigation of the basis for proper health preservation is growing every day. We must examine the methods in use in preventing disease in the light of the best and latest scientific knowledge. We must keep our minds always open to possible improvements in method. Our health officials, however interested they may be in advancing knowledge, cannot rightly be expected to carry on investigations, if they at the same time attend conscientiously to the myriad details of administrative work. It is true that some of our officials arrange their laboratories so that investigative processes are carried on in addition to routine work. It is true, also, that research is by no means limited to the laboratory, and that no active-minded officer can administer his office to his own satisfaction without constant inquiry and investigation as to the efficacy of the methods he is using. Nevertheless the primary duty of the paid official is to protect the health of his people. Research proper may well be included in the functions of the non-official agency.

**Demonstration:**—When a new conception as to method of work or treatment is announced and approved by competent authorities in any part of the world, it is often necessary to make a test or demonstration before it can be incorporated into an official health program. Moreover, a new procedure may be successful in one part of the country, and a failure in another. The over-worked health officer usually cannot make the test; he has neither the time nor the money for it; if he fails, he may be accused of wasting public funds. Here, again, the non-official agency finds its field. If the demonstra-

tion is a success, the new method can be included in the official program and the purpose has been accomplished.

**Standardization:** — By standardization is meant the testing of men and methods in public health work by accepted and authoritative standards. It should be recognized that standards are constantly changing. It is, of course, the routine duty of the health official to enforce existing standards; but to advance the standards or to create new ones, he may properly call on the voluntary agency for assistance.

**Coöperation:**—At the present time and at this meeting the last function that has been named in this paper—coöperation—is of paramount interest. We all feel the strain of possible duplication of expenditure of money and effort. It is reported that in certain states, three or four non-official health organizations are planning to develop their work, using the same people on their various boards of directors, appealing to the same public for funds, and sometimes putting out programs that are in many respects the same. If this is true, it is an absurd and intolerable situation. The coördination of various public bodies interested in public health work is also a vital service that the non-official agency can best render. So long as there exist competitive scrambles for appropriations of various public departments from one general treasury, so long will it be impracticable to consider one public body as fundamentally a coördinating agency of all of the others. This function can best be performed by the outside non-official agencies, and in many states and cities it is a very necessary function to perform.

What can be done? In the first place the non-official agencies should come together on whatever common basis can be found. The beginning may be slight and tentative; but if a program of common activities and money to finance the program can be found, there is strong hope that the bond will strengthen and develop into a real union. It can be accomplished if we do not kill the tender plant by forcing its growth, and if it is not blighted by jealousy, suspicion and seeking for place!

Next, there must be the closest coöperation between the non-official and the official health agencies,—national, state and local. As has been said above, the official is from every point of view the responsible head of the work; he has been chosen by constituted authorities, and is supported by taxes contributed by the citizens of the community, state or nation to bear the burden of public health. He has no choice as to the kind or degree of responsibility he will assume. It is all his. If we accept this as truth, it must be plain that the voluntary agency that does not coördinate its work closely with the program of the health authorities, provided of course the program is a good one, and by reason of the lack of coördination hampers or lessens the efficiency of the health officials—is worse than useless.

It is plain, therefore, that our ideal picture of the position of the non-official agency is as standing back of and supporting the health official in every move he makes that is for the public benefit. The official is the apex of the wedge; massed behind him are the citizens representing enlightened public opinion; the coördinated strength of the combination is directed toward some advance for the common good.

This is a pretty picture, and true so long as we assume that the health official will always be wise, conscientious and free from political or selfish interests. But sometimes, enlightened public opinion can enthusiastically endorse and fight for the program of the health official of this year; next January he may be displaced, however wise, efficient and highly regarded he may be, and a man of an altogether different type and equipment may be put in his place, a purely political appointee, such as we have seen in more than one of our great cities in recent years. Is it the function of the

non-official agency to stand behind such an official in order to help him to enforce measures that may not be wise, that may not be honest, or that may be taken for the direct or indirect purpose of building up the political power of himself or the mayor or governor who appointed him?

Public health has been said to be the most democratic of all community interests. No member of a community, rich or poor, young or old, is independent of or separated from the health problem of the community. It is fair to assume that the non-official health agency should be the embodiment of the democratic interest, the group consisting of few or many individuals who in themselves typify the various units in the community.

The enforcement of public health measures is, on the other hand, one of the most autocratic functions provided for under our form of government. Like a police mandate, a public health order should mean instant obedience or prompt punishment. From an academic viewpoint the close coördination of the democratic non-official agency and the autocratic health official presents points of difficulty.

American psychology has some bearing on the coöperation of the official and the non-official health agencies. An independent group of individuals each with his or her own circle of influence can be of great value in many ways. As has been indicated, each independent individual represents a teaching force that may spread and multiply with geometrical progression. No factor designed to influence public opinion can be more valuable.

An ideal combination, therefore, in all forms of health work would seem to be the health officer and the non-official body working in close coöperation, but with a clear distinction between them. If the non-official body is too closely incorporated in the official agency, it loses its identity in the public view, becomes a mere adjunct to the office; and the effect is a lessening of the force of the combination. Instead of many pronouncements in favor of some progressive step in community health, there is but one, and that stamped as official.

Moreover, groups of citizens, each of weight and influence in his own field, cannot be continuously interested in helping an official to get over his program. Why should they pay taxes to employ and support the work of an official and then devote their time to doing his work under his direction?

Are non-official health organizations worth while? The writer believes emphatically that they are.

Can they exist if tied up too closely with official agencies? No. It seems too close affiliation will stifle independence and initiative; thus will be lost the valuable assistance that health officials need and appreciate.

Can the non-official agencies be coördinated so that there will be no duplication of work either between each other or between the non-official and the official agencies? Such coördination is not only possible; it must surely come.

# RELATIVE FUNCTIONS OF HEALTH AGENCIES

## III. WHAT IS THE MATTER WITH PUBLIC HEALTH?

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*Director of Health,*
*Akron, O.*

To one who has been trying to visualize and build public health service as a function of municipal government for ten long and difficult years the discussion as to what is the matter with public health now is extremely interesting. Dr. Hill and Dr. McCombs have opened a big subject the discussion of which is of vital importance at this stage of the evolution of public health work. We must decide soon just what we are going to do, whether we are going to take our rightful place among governmental agencies, organized on the sound basis of constitutional and governmental precedent, or as in the past wander off into the seductive field of propaganda stunts and social service. The Health Officer of today finds himself and his work so variously distributed and his value to the community estimated on such varied counts and activities, that he is continuously between two fires. On one hand he has the administrative organization of his own city or other political unit. His administration expects him to be a smoothly functioning part of the governmental machine, exercising his official authority in strict accordance with the letter of the law. The legal department of the organization and the judiciary under whose guidance he exercises his police power hold him strictly to their standards and opinions as is right and proper. The Health Officer is a sworn officer of the law, he must proceed in strict accordance with orderly government. On the other hand the philanthropic agencies of a voluntary nature which are in every community, and the groups that are interested in specific things, the things not being always philanthropic, expect him to serve their ends in every cause even remotely affecting human welfare. If there happens to be no law which will serve their ends they frequently call upon the board of health or the commission to enact such a law without any regard for the basic principles of government or statutory and constitutional limitations. If for any reason there is not immediate compliance these groups are apt to become peeved and critical. If the board of health complies and passes the desired regulation its executive is more than apt to find his prosecutions laughed out of court, if they ever get that far, and his board and himself discredited. The wise health officer is not apt to become enthused over any law in support of which he cannot find precedent and opinion, nor will he enter upon activities that encroach upon the functions of other governmental departments, that operate exclusively for the benefit of any special group, or that occasion such a degree of discomfort and sacrifice on the part of the public that the desired result is overshadowed by the hardships imposed in its accomplishment.

The laws that have been enacted by boards of health in response to group demands present a curiously interesting treat to the student of public health administration who has given some attention to the study of our form of government and to the fundamentals of the law. The violation of every human right seems to have been attempted and the idea that seems to have been dominant with the proponents of these laws is, that the enactment carried with it both acceptance and enforcement. In fact in 99 cases out of 100 the

enacting body has no adequate means of enforcing its mandates. The origin of these laws almost without exception can be found in the enthusiasm of some health officer or board who in responding to group pressure did not take the time to examine into the merits and values of the proposed procedures.

The plan now in operation in Akron may present some features that will interest those who, like ourselves, are earnestly trying to dig municipal public health service from beneath the avalanche of questionable duties and responsibilities that has descended upon it from the lofty heights of altruistic urge.

On January first of the present year the city of Akron reörganized its municipal government under the provisions of a carefully built charter which provided for the commission form of government. Seven major departments were established, Administration, Safety, Law, Public Service, Public Health, Social Service and Finance. All departments save Public Health are under the direct control of the Council and the Chief Administrator. A Public Health Commission is provided which consists of "five citizens," who are appointed by the chief administrator to serve for a term of five years. The initial appointments to be made for one, two, three, four, and five years, respectively, so that there will be but one change in personnel each year. The Health Commission is the legislative body on all health matters and selects and appoints the Director of Health and his subordinates. The seven departmental directors constitute the cabinet of the Chief Administrator. Under the guidance of the Chief Administrator there has been built up a most remarkable system of coöperation in the various departments. Duties have been distributed in such a way that overlapping services leave no gaps and the spirit of sympathetic helpfulness dominates the whole organization.

Social service and public health are administered under separate departments equal in standing with each other and all the other departments. This was done by the Charter Commission for the direct purpose of attempting the separation of matters of general welfare such as poor relief, medical and nursing service to the indigent and other purely charitable activities from the field of public health. The Department of Social Service is as yet incompletely organized. The Department of Public Health is organized as follows: Divisions of Administration, Laboratories, Public Health Nursing, Sanitation, Communicable Disease, Vital Statistics, Dairy and Food Control and Education. Recognizing that disease prevention depends primarily upon the conduct and understanding of the individual, our organization is taught that its highest duty is to urge by demonstration and advice in its every contact with the public the benefits of hygienic living. It is taught that its function under the law must provide at all times text and example and the opportunity to teach individuals the methods of disease prevention. Our medical school inspection, infant welfare, preschool age and pre-natal work admits us to families in all classes of society and our nurses are taught that by being of real service to these families they can establish the respect and confidence that will make their advice acceptable and usable and will gain for the Department the kind of influence it must have in order to achieve its purposes. The sanitary inspectors, the dairy and food inspectors and the other attachés are instructed in the same way. We try to serve the public in every possible way at all times and make each service the means of educating someone or some group in the business of healthful living. We use our police powers, which are specifically conferred by Charter, only in such cases as are not amenable to instruction and advice. We bring no indefinite cases into court. Each case is prepared and the evidence

is ready and we prosecute under sound laws only. There are plenty of such laws. Our physicians are not permitted to engage in private practice. They can undertake only such remedial work outside of contagion as is clearly emergent. When the Social Service Department is fully organized we shall turn over to it the medical and surgical correction of all cases, excepting the contagious, and it will determine indigency and secure the service necessary from our hospitals and general clinics. We shall continue to treat venereals and contagious cases only. We shall keep our divisional activities because each is absolutely essential to proper control of infection and to our fundamental function which is to serve the whole people by teaching them the methods of living that preserve health and the detail of disease prevention.

The outside agencies in Akron participated actively in the construction of this plan. They saw without much argument the growing diffusiveness of public health effort and the necessity for drawing a sharp line of demarcation between social service and public health. They saw the wisdom of limiting the medical service of public health strictly to the preventive field and the necessity for firmly establishing public health in a field of its own on a permanent plane of equality with the other governmental departments. They are right behind the city government in this experiment and are not demanding spectacular and picturesque demonstrations of efficiency. They want, as we do, a public health service that is built solidly on public approbation and appreciation that has been honestly won. When they wish to know how efficient the service is they ask the man in the street. The medical and welfare services of the industries are closely linked with the general scheme. Matters of public health policy are settled in conference with representatives of all agencies interested. There is no conflict because the principals in each organization have an active part in the selection of methods and agencies. The Health Commission is widely representative and the general good is the dominating thought.

The description of our situation may sound utopian but for the present, at least, it is a fair statement.

When public health workers get down to brass tacks in a definite field, the limits of which are fixed in accordance with sound governmental function, most of what is now the matter with public health will have disappeared.

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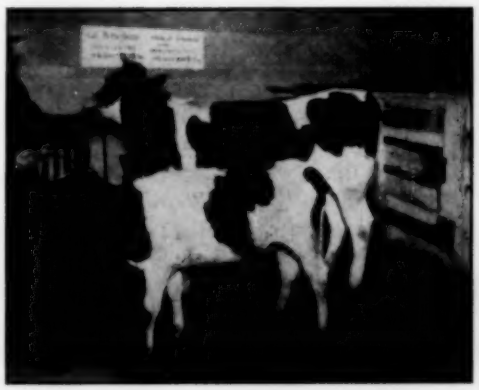
## FOOD VALUE OF MILK

**Another example of the value of milk in feeding animals, more striking even than those shown in the August issue of the JOURNAL, is here presented. These animals, 18 months old, in neither instance give any evidence to lead one to imagine any sickness to have interfered with growth, but they show a great difference in size. One had milk regularly, the other was supplied with other forms of nourishment. They were in the group recently exhibited at the Grand Central Palace, New York City, and are reproduced through the courtesy of the New York State Department of Farms and Markets.**



# RELATIVE FUNCTIONS OF HEALTH AGENCIES

## IV. RELATION BETWEEN OFFICIAL AND NON-OFFICIAL HEALTH AGENCIES

FRANCIS GEORGE CURTIS, M.D.
*Chairman, Board of Health,*
*Newton, Mass.*

Read before the Massachusetts Association of Boards of Health, at Boston, Mass., October 28, 1920.

AMONG the fads which are so popular at the present day, "Public Health" holds a very prominent position, as is shown by the large and increasing number of associations which are in existence everywhere, each with the avowed object of instructing the public in health matters.

It is a very insignificant community which has not in its midst one or more of these non-official agencies, each of which is perfectly willing to do public health work, often with very little regard for the officially recognized agencies.

The methods by which the non-official agencies get their start are very simple, but at the same time very effective.

One method is to hold a meeting, or several meetings, on public health and show how the citizens are lacking in modern health protection: they show how very necessary such protection is in order that the citizens may be kept healthy; that the infant mortality rate may be reduced or that tuberculosis may be controlled, etc.

After they have done all this they announce, in the proper way, that they will supply a public health nurse, for example, without any expense to the town and will undertake the work of supervising the health of the citizens.

This is a very subtle method of attack, because we all know the lure of getting something for nothing, and the chances are that a small town will gladly accept the offer.

Another method is for a number of persons to get together and decide that it would redound to the glory of the town, and perhaps incidentally of themselves, to establish a clinic or a dispensary for the treatment of any one of the list of human ailments which have been popularized lately. No sooner said than done and the work is started as a "demonstration" and carried on until it dies of inanition or is unloaded upon the community to be carried on successfully by the official agency.

These are not imaginary pictures: they are statements of what is actually occurring around us, every day.

The writer believes that the time has come for the boards of health to face this condition frankly and to take action to put these non-official agencies in the positon in which they belong, namely, that of adjuncts to the health department, taking their orders from it and supplementing its work, and he further believes that if boards of health do not do this, and do it now, they will wake up too late, only to find themselves in a subordinate position.

Consider for a moment how difficult it will be for a board of health to persuade the tax payers to appropriate money for school inspection or care of tuberculosis or any other necessary function, when a non-official association says that it will do the work, without any expense. Consider also the value of the vital statistics of a community in which such work has been done by an irresponsible association which has no connection with the board of health and has no responsibility to it.

We all know that a quarter of a century ago, the board of health was looked upon as more or less of a joke; its chief duties consisted of placarding houses for communicable disease, fumigating rooms

after such diseases, abating nuisances, removing garbage and frightening people about the condition of their plumbing. Almost anyone knew enough to go on the board of health, but no one wanted to, while its medical member had to be coaxed to accept the appointment and sometimes felt that he was losing caste among his fellows by so doing.

Contrast this with the board of health of the present day with its corps of trained men; men who have devoted years to the study of their profession, many of them holding the degree of D. P. H., or its equivalent won by hard work in the field; men, trained in laboratory work, preventive medicine and in all branches of public health work, who devote their lives to the protection of the communities whose health is in their care.

The work done by the pioneers in public health has brought about a change in the attitude of the public towards boards of health and instead of being ridiculed they are respected and looked up to.

It has brought about another change also and one which I believe is responsible, in part, for the present situation. It has made public health popular and has caused shrewd persons to seize upon it as a means of justifying the existence of certain non-official agencies, by doing work which can and should be done by the board of health.

They apparently wish to appropriate all of the successes which the pioneers of public health have achieved, use them for their own advantage and leave for the board of health only such parts of the work as they themselves cannot do because of lack of legal authority.

That this controversy between official and non-official agencies is not imaginary was clearly shown at the recent meeting of the American Public Health Association at San Francisco. Part of one session of the general association was devoted to a symposium on this very question and in some of the section meetings the question was touched upon.

There is no doubt but that both the official and non-official agencies have their place in the community; the latter are in existence and will undoubtedly continue to exist for some time, but the important question to be decided is which shall lead and direct the work.

In the opinion of the writer there is and can be but one answer to this question. The leader and director must be the official agency; in other words, the board of health. When one considers the many functions of a modern board of health and how they reach out and touch almost every phase of community life it is evident that any non-official agency which attempts to do public health work independently is simply trying to usurp one or other of the functions of the board of health or else to reduplicate its work for some reason.

The chief reason why the board of health should lead and direct this work is because it is established by law; it is the servant of the people, responsible to the people for what it does and for the manner in which it does it. It has been entrusted with great powers. In this state, the board of health acting under the law is practically omnipotent; there is hardly anything that one can think of that the board of health cannot do, and to use a slang phrase, "get away with," provided it acts within the law and it is not difficult to do that. But the very powers given to the health officer, as the representative of the official agency, carry with them a sense of responsibility which makes him more careful in the exercise of those powers than the representative of the irresponsible non-official agency.

The health officer is the tax payer's man and consequently is more conservative; more prone to count the cost, in all senses of the word, than is the non-official man.

The law, which is after all only crystallized public opinion, has given

great powers and also great responsibilities to the legally-constituted official agency and its legally-appointed agents and I know of no legal authority which allows it to delegate these functions to non-official agencies. It is, however, true that these non-official agencies or some of them do not agree with this view.

Some of the non-official agencies argue that the chief reason for their existence is to be found in the poor organization of the official agencies; they claim that if they, the non-official agencies, did not carry on the work which they do, the public would be deprived of the care and instruction to which it has a right; and they say that it is only in those communities in which the boards of health do not function properly that the non-official ones are active. The objection to that idea is that the right of deciding what constitutes the proper thing under the law, is claimed by one of the parties to the controversy, and one which has no standing before the law. The agency whose sole excuse for existence depends upon the failure of another to do the proper thing, would very soon decide that its rival had failed, if it had the power to decide and was not responsible to the community for the correctness of its decision.

If the non-official agencies confined their independent activities to those communities in which the official ones do not function properly, they would have a better case, but it is a known fact that they do not so limit themselves.

There is hardly a function of public health work which the board of health cannot and does not perform better than the non-official agency.

In questions pertaining to administration the health department must necessarily work them out better; its overhead is less and its view point is wider. In the matter of control of disease and the disposal of the individual patient, the tax payer's doctor, the health officer, must be in charge and decide what must be done. Often in the end it is the tax payer's money which must pay the bills and his representative should be in control and decide how it shall be used.

The *education of the public* in matters pertaining to health is a very important function of a modern board of health and should always be under its control. This is a function which appeals very strongly to the volunteer agency and it is here that it can do much real harm and hamper the board of health to the greatest degree.

It seems a peculiar dispensation of Providence that the public is always more ready to accept the statements of the non-official agency than it is to believe those published by its own board of health. Perhaps this is because the former has no legal responsibility and its main idea is to get its information before the public in a striking, catchy manner, and sometimes, I regret to say, without strict regard for fact. The most difficult statement to confute is "the lie that apes the truth," and the statements of the volunteer agencies usually have a modicum of truth.

But no matter how reckless the statements of the volunteer agency may be nor how much they may be misunderstood by the public when they are correct, it is never the unofficial agency which is held responsible but the board of health which is criticized, and criticized severely, if its action does not agree with what the critic believes the unofficial statement meant to say.

Often the fact contained in an educational leaflet or catch word issued by a non-official agency may be perfectly correct but utterly impossible to carry out because of undue expense or because it is impracticable. This makes no difference to the critic; he immediately comes to the conclusion that his health officer is behind the age or is not doing his duty and he is not at all bashful about saying so. If, however, the health officer should attempt to carry out one of the expensive suggestions of the volun-

teer agency and then call upon the taxpayer to pay the bills, it needs no clairvoyant to tell what would happen.

The volunteer agency is never troubled by any apprehensions in regard to cost, and its suggestions, while good, are often impossible of adoption because the result is not commensurate with the expense involved in accomplishing it.

In this very important function of public health work, there is no question but that the health officer should be in absolute control, and, if for any reason, he cannot publish educational matter himself, he should at least have the opportunity to pass upon all such matter before it is issued by the volunteer agency.

The health officer of the present day is a practical man, interested, not in any particular branch of public health work but in all, and he is much better able to judge of the effect upon his own community, and his own work, of any particular leaflet or catch word, than is a non-official agency, interested usually in only one particular function of the work, which employs a publicity man to turn out catchy stuff without any particular regard to its effect.

Research work or the study of disease is another function which should be under the control of the board of health; it is under no obligation to justify its existence by showing that it is doing something, no matter what, and it can therefore proceed more slowly, test out its results at leisure and be sure that its conclusions are justified before announcing them.

One marked feature of the unofficial agency is that it must always keep itself before the public and it is therefore very prone to explode prematurely. Furthermore, it may jump at conclusions and announce as fact something which is at best only a working hypothesis.

Even that increasingly popular institution, the health centre, belongs properly to the board of health. A health center, after all, is simply a place where the benefits of preventive medicine and good advice on matters pertaining to public health are offered to the community at large and who should more properly oversee and direct this than the taxpayer's own doctors and nurses?

It is very gratifying to be able to record that Massachusetts has recognized the truth of this fact and that, under the provisions of Chap 100 of the General Acts of 1920, cities and towns may establish dental, medical and *health* clinics and, in connection therewith, may conduct campaigns of general education relative to matters of public health and furthermore that all these shall be under the control of the board of health and that any money appropriated for their support shall be expended by the board of health.

The question as to how the board of health shall keep control of these functions or resume control, if it has lost it, is not an easy one to answer. The non-official agencies have a very strong foothold in many places and appeal very strongly to the public and it must, in all fairness, be admitted that their claim that they are doing work which the board of health ought to do but isn't, is very often true. It seems, therefore, that the first thing for boards of health to do is to become really active and do something more than placard a few houses for diphtheria or scarlet fever.

In many communities it is true that the local board of health lacks the trained personnel to do much active work, but it can always ask the District Health Officer for advice and assistance. It is not meant that the local board should ask the state to do its work, but only that it should consult with the representatives of the state as to the best methods of procedure.

Too often the local board of health acquiesces in the usurpation of some of its functions or, which is much worse, turns them over voluntarily to some non-official agency. The writer has often called the office of a board of health and

asked for information only to be told that some local association was doing that work and that the required information was not on file. In the humble opinion of the writer such a reply at once stamps a board of health as failing in its duty. The information asked for was in regard to a legitimate function of a board of health and the public should be able to obtain it from the main office, provided it was in existence. If the work is being done at all, the board of health should do it, or if temporarily unable to, should see that it is done, under its direction, and proper reports filed.

The writer believes that in this state, at least, the local board of health has ample power to control all matters pertaining to public health and should do so. Its obligation to do this is increased if it has voluntarily turned over the work to some other agency, and has failed to require proper reports of the work.

In those communities where the non-official agencies are powerful and have a strong hold upon the public, the health officer, as the representative of the legal authorities, should keep in close touch with the non-official agencies either personally or through his public health nurses; he should attend their meetings and do all in his power to direct their energies in the right direction.

A little diplomacy will go a long way and often a quiet suggestion in regard to a method of procedure or a simple question, may be the means of putting the health officer in a position to control the matter under consideration, but he should never forget the fact that he is the representative of the board of health which has control of such matters by law. He should be very careful to explain the law governing such cases as may come up for discussion. The trouble with many non-official agencies seems to be that they are ignorant of the law and do not understand that a local board of health, powerful as it appears to be, is bound by the law and must be able to justify its acts by the law.

The writer has often found that a short explanation of how a board of health must act and that its apparent slowness in acting, in cases where rapid action was not necessary, was due, not to carelessness, but really to careful consideration, has resulted in his getting control of the situation.

On the other hand he has been able to show that the unauthorized interference of the volunteer agency has resulted in unnecessary delay in settling the case, often to the detriment of the physical welfare of the individual it was trying to help.

If the health officer can once persuade the non-official agencies to work with him, instead of acting independently, he will find that he has acquired an addition to his working force—whose usefulness will depend in great measure upon himself—and he will have gone far towards realizing the picture presented at the San Francisco meeting by a speaker who showed "the unofficial agencies standing back of and helping the official agencies" and also that he will have eliminated the proviso "as long as we feel that the latter is doing the proper thing," because, as they are helping in the work, they will feel that it is the proper thing.

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**Three important Symposiums from the San Francisco meeting are scheduled for early numbers of the JOURNAL in 1921,—Narcotic Drug Control, Smallpox and Health Centers.**

# RELATIVE FUNCTIONS OF HEALTH AGENCIES

## V. COÖRDINATION OF STATE AND PRIVATE ENTERPRISES IN PUBLIC HEALTH WORK

W. H. HATTIE, M. D.,
*Provincial Health Officer,*
*Halifax, N. S.*

[At the annual meeting of the Canadian Public Health Association, June 21-22, 1920, Dr. Hattie presented his address. By way of introduction he spoke of the war and its lessons and then referred to the vastly more important war, that of public health on disease. With this preamble he entered upon his main subject, his words being here presented through the courtesy of the Public Health Journal, official organ of the Canadian association.]

Nothing has been more heartening to public health workers than the growth and spread of interest in public health possibilities which recent years have witnessed. The stimulus has been felt in many ways, and has aided greatly in furthering advance. While zeal may at times have outstripped prudence, leading to multiplicity of organizations with resultant overlapping and perhaps clashing of interests, the tendency towards coördination of effort had been steadily becoming more evident. And now that the League of Red Cross Societies has been formed with so magnificent a purpose in view, "the improvement of health, the prevention of disease, and the mitigation of suffering throughout the world," we have an ally, the strength of which can scarcely be overestimated, and which has the unquestioned confidence of the people of every nation. If then, we take advantage of this alliance and determine upon effectively correlating the activities of all agencies with similar aims, whether they be state or private organizations, in a united endeavor to improve the general health, we should make tremendous strides towards our common goal. And because of Red Cross connection, there should develop a feeling of mutual interest and sympathy among nations which should become a most important factor in securing and preserving peace throughout the world.

It is particularly gratifying to those in the service of the state that the League of Red Cross Societies has definitely recognized that the protection of the health of the people is a responsibility and a function of government, and has decided that public health work under Red Cross auspices will be supplementary or complementary to that undertaken by other voluntary and state agencies. The readiness of so powerful an organization to enter the public health field in what might almost appear to be a subordinate position is indicative of the splendid spirit which actuates Red Cross activities generally. It, moreover, shows the consistency of an organization which has won a reputation for such efficiency as can be attained only through centralization of authority. So fine an example will doubtless overcome any hesitation which other agencies might have in agreeing to carry on their undertakings under greater or less control by a Central Authority. It is very human to desire independence of action, and to crave public applause, but in the great work of saving life and of increasing the comfort and happiness of mankind the attitude of all good workers will be one of complete unselfishness.

When, therefore, it is said that the general direction of all health work should be in the hands of the health administrator of the state, it is not because of any wish that such official should receive anything more than merited kudos for the results achieved. It is because such an official is the logical person to whom this great responsi-

bility should be assigned. Much public health work can be carried on only under statutory enactments, for the formulation and enforcement of which the state is responsible. Practically all the progress which has been made in this work has been either initiated by or made possible by state health organizations. Much the larger part of the expenditure which has thus far been made on behalf of the public health has been from state funds. Officials of the state have opportunities for acquiring information as to both general and local needs and for determining the most promising lines of action which are in exceptional instances available to private persons. And the people generally have come to look to the state for leadership in such matters. If, therefore, we are to agree upon the principle of unity of action, it would appear that the coördinating and harmonizing force should be the state organization. It certainly could not be hoped that any private enterprise could be assigned such a place without arousing the antagonism of other agencies which are doing most useful work along similar lines.

The amount of control which the state organization might exert over private enterprises should, however, not be more than is necessary to prevent wastage of funds and effort. As far as possible there should be no interference with autonomy. Every possible assistance should be rendered, every encouragement should be offered, and every credit should be given by the state organization to the coöperating agencies. And while all private activity in respect to health work should perhaps be conditional to the sanction and oversight of the state organization, the pressing need for such private activity and the unquestioned value of a great deal of the opinion which evolves from such sources, should prevent any unreasonable interference with the work they are carrying on. There should, of course, be frequent conferences in order that there may be definite and complete understanding in respect to policy and the relationship between the various organizations.

While not suggesting that there should be any diminution of state activity or lessening of state responsibility in matters which are definitely functions of the state, it would appear that unofficial organizations could materially aid in the furtherance of our aims by encouraging investigation along promising new lines, especially through financial assistance to laboratories; by assistance through endowment or otherwise in the teaching of public health to medical students and others—as to graduate nurses who desire to enter our fields, and to those who wish to engage in welfare work; and by assistance to national organizations now engaged in propaganda which has a bearing on public health. The proposal of the Red Cross Society to provide in whole or in part for the support of public health nurses in communities in which local funds are insufficient for such a purpose is a most practical method of coöperation. Further assistance might be rendered by furnishing paid and voluntary workers to help at health centers, health clinics, etc., in rendering clerical aid, stimulating interest, distributing relief, and carrying on such other work as does not require technical training, so as to conserve the time and energy of those who have such training. In such ways immense impetus would be given to the work of the official agencies.

The inspiring program which the League of Red Cross Societies has laid down, and the splendid work on behalf of the public health which has been carried on by the Victorian Order of Nurses, anti-tuberculosis leagues, child welfare organizations, local nursing associations, women's institutes and kindred enterprises, merit our heartiest commendation. The self sacrifice shown by so many of our people, who have given freely of their time, energy and

substance in the effort to ameliorate the conditions of their less fortunate fellows cannot be too highly extolled. Those holding positions in the service of the state owe to these noble people a really burdensome debt of gratitude. We need the stimulus and the encouragement as well as the help they give. It is with no desire that their activities should be curtailed, or that any irritating restraint should be put upon them, that it is suggested that they should work under state direction, but rather to increase their efficiency and to obtain through harmonious coöperation the best possible results in "the improvement of health, the prevention of disease and the mitigation of suffering."

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# RELATIVE FUNCTIONS OF HEALTH AGENCIES

## VI. DISCUSSION

At the San Francisco meeting of the A. P. H. A., following the papers on this subject by Dr. Haven Emerson and Dr. Charles J. Hatfield at the general session of Monday evening, September 13, 1920, there was a general discussion. The speakers were Surgeon General Hugh S. Cumming, Dr. John A. Ferrell, Dr. William F. Snow, Dr. E. A. Peterson, Dr. Frederick R. Green, Dr. Donald B. Armstrong, Professor Edith S. Bryan, Dr. L. A. Powers and Dr. Frankwood E. Williams. From the stenographer's notes of the session the following minutes of the meeting have been prepared, which in general follow quite closely the language of the speakers in their main arguments.

The first speaker in this discussion was HUGH S. CUMMING, Surgeon General, U. S. Public Health Service. Dr. Cumming spoke of the interest felt by the officers of the Service in the movement of the American Medical Association for the unification of Federal governmental activities. His arguments were to the effect that, as both speakers had said, public health is a governmental function. At first sight then the necessity for the non-official health agency would seem to involve the confession that the governmental agency was inefficient, lacked adequate legislation or adequate appropriations. On behalf of the official side we prefer to think that it is lack of such legislation and appropriations in some form of government. We cannot use this as a defense. In our form of government, however large the appropriation might be, however adequate the legislation might be, there would still exist the absolute necessity for voluntary agencies.

There are two ways of carrying out the health legislation: One is by attempting to enforce a law which may have been enacted against the will of the people and the other is to get the people in the proper frame of mind to obey the law voluntarily.

Under our form of government at least and with the American people, the enforcement of the law against public sentiment is, I think, absolutely impossible. We have had demonstrations of that along other lines.

Now the main difficulty as I see it with the federal and, I am sure, the state agencies, is to get in such contact with the individual man, and particularly with the man who needs instruction, that he will understand why the law has been passed and the necessity for obeying it.

I think that our unofficial bodies are doing and can do more work along that line in educating the individual, in getting the official body in contact with the individual, than in any other way as regards routine of improvement of public health.

It goes without saying that no governmental agency is fully equipped suddenly to assume responsibility for and to handle great calamities and epidemics. That is exactly, of course, where the Red Cross has done such a noble work, not only in war but in times of peace.

I am glad to see that the Public Health Association is taking up this work of inducing the people to take an interest in the necessity for more adequate public

health legislation than exists. In every country I think that will be one of the most important features of non-official bodies.

DR. JOHN A. FERRELL, Director for the United States of the International Health Board, was the second speaker, whose remarks were the following:

The consideration given at this meeting to a discussion of this topic is really a continuation of discussions which have been under way during the past three or four years. The situation is gradually clearing, and the public and private health agencies are finding common ground. The outlook for real team play is encouraging. I was requested to present the point of view of the non-official health agency, I presume, because of my connection with the International Health Board.

This board as a non-official agency is peculiarly situated in that its annual resources are derived as income from an endowment fund; its organization is limited to board members and staff members; and there is no occasion for seeking special donations or for conducting membership drives. Its point of view, accordingly, could not be expected to represent that held by non-official health agencies differently situated. I shall, therefore, limit my remarks to the point of view of the International Health Board.

The board is a working agency of the Rockefeller Foundation in the field of public health. It has operated in no state or country except upon invitation from the government. A working relationship has been established with government departments of health in more than thirty states and countries throughout the world. The field activities in which it coöperates without exception have been conducted in coöperation with government, and, in so far as practicable, through and in the name of government. Although its financial aid in a number of countries has been limited to the control of special diseases which lend themselves to concrete demonstrations, its broader and deeper interest has been to aid, as opportunities arise, in the development of strong, well-rounded, efficient public health agencies, adequately financed with public funds.

Public health authorities generally have encountered difficulty in securing appropriations for new projects. Legislative bodies will provide funds for continuing work the usefulness of which has been demonstrated. The private agency can coöperate with the public agency financially and otherwise in conducting demonstrations of more effective methods for conducting the work to which the government is already committed, and in demonstrating the value and economic practicability of new undertakings. Once the demonstration is made, and the taxpayer and legislator satisfied as to its value, the legally constituted agency can, with comparative ease, obtain the funds for its extension as a part of the government program. Coöperation of this character is welcomed by the public agency, and offers to the private agency an exceptional opportunity for service. It results in broadening the public health program and in increased legislative support on a permanent basis for the public agency.

The International Health Board, in addition to lending aid in demonstration measures for the control of hookworm disease, malaria, yellow fever, and other diseases, on the basis outlined, has contributed toward increasing the number of trained health officers. The development of public health work in many states and countries is already far in advance of the supply of qualified health officers. The situation has led to the granting of a limited number of fellowships to promising health officers who are sincerely desirous of better qualifying themselves for their duties by studying in institutions which offer creditable courses in public health. Moreover, assistance has been given toward the establishment of training facilities at strategic points. Scholarships have likewise been provided for training scientists desiring better to qualify themselves for teaching the fundamental branches of public health.

The governmental agencies have welcomed coöperation along the lines described and have expressed the opinion that as a result their efficiency has increased and the scope of their work broadened. The relationship at every point has been harmonious. The public and private agency has had the same objective. There has been mutual understanding and an absence of conflict of interest. Where public and private health agencies can share in a common task, there would seem to be for each a definite field of usefulness where real

service can be performed which will inspire the confidence and support of the public.

DR. W. F. SNOW, of New York City, began his discussion by stating that in the company present he could see the representatives of at least twenty or thirty private volunteer agencies of which when Health Officer of California he had asked for assistance in various ways.

Sometimes it was the development of some experiment which we believed would lead to some demonstrated measure of efficiency for effecting work in the state. Sometimes it was to carry out in some limited area a demonstration of measures that we knew were practical but measures which we could not stand behind and say of them to the legislature or to a given board of trustees of a town that they had ever been tried, practiced and proved to be feasible within the normal taxation of the community.

There are many times when all of us who have been health officers have faced a situation in which we wanted, in the language of President Wilbur's and President Barrows' students, to "Let George do the job." We have always turned to the volunteer agency to do the job and usually they have carried it through.

I think the discussions which have gone on this evening in presenting the viewpoints of the two agencies might well be summed up in a re-statement of what Dr. Ferrell has just said, that it is the function of a volunteer agency, and will be for years to come perhaps, first to experiment with incomplete evidence as to administrative measures.

Our universities will always be looked to, I think, to find the academic facts, to work out our field of scientific facts which we may apply to the preservation of health and to the combating of disease.

Beyond that there is still a field of further experimentation in which we want to take a set of scientific phenomena and see if we may apply them through any of our social and administrative machinery.

When we have proved that case then comes the necessity of proving it from the taxpayer's standpoint; prove it from the mayor's or governor's point of view, as to whether we can fit it into our administrative machinery.

I think we must look to private agencies to test out just such preliminary steps. Once we have those things proved, they can be applied through the administrative machinery.

Then again we probably will have to look to these agencies to develop public opinion to get behind the health officer in applying these measures.

It is the function of volunteer agencies to shape public opinion toward such legislative action.

Again it is necessary, as Dr. Ferrell has pointed out, for them to aid financially in the beginning and the extension work at least of pioneer efforts in public administration with every new attack we make for the preservation of health.

One last thing: Speaking from the point of view of the volunteer association, I think it is important to have in mind that the volunteer association can watch progress of its public health officials. After a measure has been proved practical, is in operation, it still remains of importance that we have some individual volunteer agency that is watching that measure to see that it is effectively enforced. If it is, well and good; if it is not, that volunteer agency is depended upon to see that the officials who have been charged with the duty of enforcing it do their work effectively.

If it is lack of funds, as Dr. Cumming suggested, we must see that the taxpayer provides the funds. If it is lack of initiative on the part of the health officer we must see that we have one that can do the work.

To my mind the program of study and the development of correlation, coöperation and the merger of the volunteer agencies suggested in the closing remarks of our President Rankin, are entirely sound and I believe much may be expected to come from the series of conferences this coming year which he has mentioned.

DR. E. A. PETERSON of the Red Cross, Washington, D. C., in outlining the situation stated that both the official and the non-official agencies will do "what the folks will allow it to do."

Now why the official agency cannot do all of the good things in the field of health need not be discussed here. We know that it cannot. We know that there are so many good men in health work today that if it

were possible to do all the good things they would be done.

But we also face these facts, that on the one hand here is a mass of knowledge, but as Dr. Emerson says, there has not been a transference of that knowledge, so that there seems to be a tremendous amount of work which some other phase of our expression must take care of.

I am one who believes that there is just as firm a foundation for the unofficial agency as there is for the official agency; that is, a law is not the final thing, the final rock upon which we can place any kind of a building.

With the relative functions as I have just stated, each agency can do what its supporters will allow it to do. If there is a gap between them, if there is a body of knowledge here that our experts have gathered and it is not made available over there, we ought to bridge the gap. The unofficial agency can be very important in such a field.

Dr. Peterson recognized the equally firm foundation in the sociology of the country of the two agencies, and assured his hearers that it is not a question of making the non-official agency the tail to a kite, for it is a kite by itself. The relative functions of the two have nothing to do with their regard for one another, but with the regard of the people towards them. The official agency should do as much as it can considering the limitations that surround it. What it cannot do the non-official agency may accomplish.

"I do not believe," he said in closing, "that the non-official agency can do its best work by tieing up absolutely to the health officer. That non-official agency must have a little kite of its own and to help the health officer most we must seem to help him little, because of a psychology which I think you all understand."

DR. FREDERICK R. GREEN of Chicago, Ill., was the next speaker and referred to the history of this discussion, which at every recent meeting "has bobbed up to the surface and has been discussed a little while and apparently gone out of existence again until the next meeting."

To the superficial observer there has been little if any progress made as far as actual accomplishment goes. At the same time those who have been entering the discussions know and it is apparent to us, that we have been gradually, slowly if you will, necessarily on account of the magnitude of the interests involved, gradually getting to an understanding and working out some general principles.

I think that those of you who recall the first program when this question was up for discussion—I think at the meeting in Jacksonville in 1914—and the various papers and discussions on the question held then, and compare it with the one held tonight, you will agree that there has been decided progress. There has been a very apparent acceptance of a number of different general propositions governing this question, on the part of all the speakers taking part in the discussion.

In the first place everyone has agreed, I think, that the ultimate object toward which we all of us were working and the ultimate goal toward which all of us want to attain, was the organization of adequate and official governmental machinery in the public health field, from the top down to the bottom; such organization for the public health as may be necessary to handle the problems of the federal government, whatever their limitations may be; the organization in each state of an effective state organization that will handle the problems of the state public health, and in each city of any size, or whatever the unit agreed upon, one which will handle the local problem.

That is the ultimate object toward which we are all striving and I think that has now come to be generally accepted and admitted.

If that is true and that is the goal toward which we are working, then it necessarily follows that the voluntary organizations must necessarily be temporary organizations, whatever that may mean. They are for the working out of certain definite problems and for the carrying on of certain functions until the federal machinery may be constituted to such a point where it can properly take them over.

If that is the case, then it also follows that there are certain definite functions which those temporary organizations should perform. First, that they should be regarded as stop-gaps to fill in the time until the governmental organizations can be mobilized and properly organized to take

over those functions; second, for educating the public; third, for arousing interest in the public which will lead to the proper machinery.

Then it follows that the task is too large, that of educating the public for instance, for any one class. I want to include the class which I represent, the medical profession. While I think it is perfectly true, as Dr. Hatfield says, that the educated, scientific medical profession must be of necessity one of the largest, and while it is of the highest importance, I have repeatedly urged in the meetings of the American Medical Association that the medical profession, both as individuals and as an organization, should take a leading part in public health leadership; yet it should never be forgotten that it is necessarily a function of the government and not of any one profession or class.

It is in accordance with these general principles that the Council on Health and Public Instruction has endeavored to carry on its own activities, rather than the development of any single function or the monopolizing of the field, recognizing the fact that we should merely form a hub around which other organizations could group and with which others could affiliate and coördinate.

That I take to be the function of the Council of Public Instruction in the medical profession and is its contribution in working out this problem.

DR. DONALD B. ARMSTRONG of Framingham, Mass., expressed the opinion that Dr. Emerson had struck the keynote when he said that "the leadership and responsibility for this thing must be carried by the official public health agencies."

Is it not true that toward this question of the relation of public to private functions we have at least three types of minds? We have, in the first place, what you might call the engulfing mind, which would like to see the public service take over every function as soon as possible.

In the second place, we have the discouraged mind that does not believe in any public service, that is discouraged about public service and wants to see the public officers and officials keep their hands off things as long as possible.

In the third place, you have a type of mind, I think, which represents most of us, which I might call in contrast to the engulfing mind and the discouraged mind, the courageous mind that recognizes the failures of public service but has faith in democracy; is not content only with getting the best service possible out of bad men but is desirous of getting the best possible men into public service.

Now if the functions of the private agency are as Dr. Hatfield has outlined, namely, that of research and demonstration and also of the encouragement of public officials in upholding their hands in the carrying out of their functions, then is it not true that the heart of the public health program does at the present time and always will belong to the public official and will be concerned primarily with practical service?

In the second place is it not true that the fringe of public health activities, the less tangible activities such as research and demonstration and education perhaps, will in part and perhaps always, belong to the private agencies; and that finally on this basis of public interest in public health it will, at least for as long a time as we can foresee, be the privilege and the obligation of private agencies through the creation of lay organizations and official organizations and through the building up of public service ideals, to create a sentiment and a background which will uphold and support adequately and will demand satisfactory public service from the officials concerned with public health?

PROFESSOR EDITH S. BRYAN of Berkeley, Cal., spoke from the viewpoint of teacher and trainer of a group that holds an important place in modern public health work, the public health nurse, and expressed herself most eager to seek in both agencies that which is good. "I am also bound," she said, "to note in both agencies that which is weak because it is impossible to know when you are training the public health

nurse where she will go, whether to the official or the non-official agency. Therefore she must go out with a conception of that which is best in each and with a knowledge of that which is weak in either, if she is going to be able to do a just and fair and honest work for the people for whom she is laboring.

"As I have said, it is training that we are doing at the university, and we are most eager to encourage (together with a real knowledge of the work, either official or non-official) an enthusiasm and optimism and idealism, recognizing that the woman's part of the public health work as done in nursing can not be done without these three factors.

"To give them these three things in relationship to both official and non-official agencies is our task. It is a great one, a worthy one, and their work in these agencies will show whether it has been well done or not.

"Before united leadership can be gained there is one other thing that must come; united sympathy must be born and the birth cannot come without months of preparation and that preparation must come in the hearts of the leaders of these two representing agencies—not only in the hearts of the great leaders but also the hearts of the leaders of the little local organizations. Petty jealousies must vanish; fear of one another must be gone if this real sympathy can be allowed to be born—and it must come.

"I think we all recognize that the amount of work to be done by the public health nurses under these two agencies never was greater than now, and we have to teach these girls, we must make them see the value of Martha's work and Mary's, the one who is 'busy about many things' and the one who is thinking deeply about those which count most. I leave it to you to determine which is the Martha agency and which is the Mary agency. It will probably depend upon which you are working with, which one you will call by either name. As we have said, it is impossible for either agency to do all the work.

"Since the opening of the Conference on Friday, I have heard two comments from officials in public health which better express some of the difficulties for the nurse in working with these agencies than anything I can give you.

"One of the officials said, 'It is impossible for me to make a recommendation for the elimination of a certain evil because of the political influence which would be brought to bear on those who are doing the work.' There is a handicap which we cannot but recognize.

"Another was that an official speaking of his coördinate said, 'That man is too thoroughly under the thumb of the anti bodies to ever use his full influence to do the work that should be done by his agency,' showing that there are sometimes limitations which the best of people cannot overcome.

"Yet we do recognize that the other agency lacks the power to do by compulsion some things that must be done to us American people in order that we live in the most unselfish way, for we not all of us are inherently unselfish.

"And so to both agencies my plea is this: the public health nurse, trained to go out and do the great work, knows not during her training whether she is to work under the official or the non-official agency. We are sending her out with an idealism that she can do a great work with either.

"As she comes to either let us hope that that idealism need not be destroyed by any adverse feeling."

DR. L. A. POWERS of Los Angeles, Cal., spoke very briefly, voicing the opinion that the discussion of the evening had outlined the whole matter more clearly than had been done before, and noting that he saw in the suggestions a fair road to success, because it is by means of education and not by law or anything of that kind, that coöperation between the two kinds of agencies is to be attained.

DR. FRANKWOOD E. WILLIAMS of New York was the last speaker in the discussion and took for his theme the value of the minority.

All progress, of course, when you come to think about it, comes through the activities of minorities. The greatest official organizations we have in the country, the

United States Public Health Service, represented at one time the minority view. This organization itself, the American Public Health Association, represented at one time in the American Medical Association a minority point of view.

To speak then with disparity of minorities is to ignore their power. An official health organization represents the crystallized majority opinion. It represents the minority views from time to time that have become the majority view and have been congealed into law.

It would be most unfortunate if after that were accomplished there should be no more minority opinion upon the subject. An official health organization can never represent the first thought or the best thought or the most progressive or advanced thought in public health.

I do not mean by that that individuals in an official health organization cannot be the leaders in public health thought, that there cannot be individuals in the organization who will be the most progressive or most advanced in their thought of any public health workers in the country. There can be and frequently are; but as officials they cannot be because they can represent officially only a part, that part which has been provided for them by law. Beyond that they cannot go.

Now if by some magic the program of every non-official organization that exists today could in this second be realized and every part of this organization and those programs put over in the non-official organizations of whatever type you choose, there would still be need for non-official health organizations because nobody believes surely that the program of the American Tuberculosis Association as it consists today, or the American Hygiene Association or Mental Hygiene or any other, represents the ultimate program of any one of those organizations.

And were those programs as they exist tonight to be adopted there would still be further programs and further minority views that would still call for the existence of these organizations.

Some sort of arrangement is desirable; there should be coöperation. Better not that which is more superficial and may be artificial and may be dangerous. I like better what Dr. Armstrong has voiced in his preliminary report, in which he speaks not of coöperation but of integration. If we can have an integration then we will have a very useful organization. If it is merely a superficial and artificial coöperation then it is very questionable. But always there must be minority views.

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# MEANING AND PURPOSE OF SOCIALIZING MEDICINE

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Address of the Chairman before Sociological Section, American Public Health Association, at San Francisco, Cal., September 13, 1920

ONE of the functions of a Section Chairman of the American Public Health Association should be the presentation of an annual message. The aim is not the utterance itself, but the exposition of such views as may serve to stimulate thought, guide the development of the section, or suggest possibilities for more effective public service.

The Sociological Section is comparatively young, and the reasons for its creation are more marked today than at the time of its formation. One might well pause to inquire, what is meant by socializing medicine? What is its meaning and purpose?

Medicine may be defined as the healing art. This includes the science of the preservation of health, as well as the science of treating disease for the purpose of cure. The science and art of medicine require no more extended definition.

Sociology, as a science, treats of the origin and history of society and social phenomena, the progress of civilization, and the laws controlling human intercourse.

It is patent, that there is an overlapping of territory in which are to be found phases of preventive and curative medicine interwoven with social phenomena and laws controlling human intercourse. Experience has demonstrated that social medicine is more than the medical interpretation of social data, and, similarly, is not limited to the social interpretation of medical facts. Personal hygiene relates to individual living, but even this is partially determined by a variety of social phenomena, as for example, the nature of the water supply, housing facilities, interior toilets, low wages, large families, and a vast assortment of conditions wholly or partially beyond personal control. Many of the problems of individual hygiene are determined by social organization and social practice. The social viewpoint considers the public as an aggregate of units functioning as a developing organism, and possessing as many problems in the aggregate life of the community as are to be found in the fulfillment of the destiny of any individual unit that helps constitute it.

Primitive medicine, as viewed from the standpoint of the anthropologist, was essentially individual, but the beginnings of a social point of view were manifest in the religious endeavors to combat disease, and to account for epidemic diseases. In the medieval period of history, the foundations of socialized medicine were implanted as institutions including hospitals, nursing and education. The development of the family practitioner led to a focussing of attention upon the family as a larger unit for professional care. His interests contemplated the welfare of the family group, with a consideration of the relation of individual affliction to familial welfare. The finest flower of medical practice, in its transitional phase flourished in the domain of family practice.

As in industry, an analytical process, born of scientific experimentation, influenced the growth of medicine so as to increase its complexity, making obvious the need for differentiation of function. In many instances this division of labor resulted in a condition analogous to process serving in industry. The individual and the family shared in the analytical process so that they both became congeries of systems to be studied, probed and treated by specialists, if a maximum efficiency were to be secured. The recognition of the continuous subdivision of medical practice gave rise to types of investigation which proved that neither the individual nor the family were completely masters of their physical well-being, nor could they, unaided, make the adjustments requisite for their own protection. Hence, during the 19th Century syntheses of medicine became effective through attempts at organization in the interest of the race. The fruition of these efforts to serve humanity as a whole, has been manifest in the accentuation of the social aspects of medicine during this first fifth of the 20th Century.

We have become accustomed to distinguish between private practice and public medicine; and in public medicine as well as in private practice we have differentiated between curative and preventive methods. It is true that health officers, in their descent from the priestly class, have always been charged with a certain measure of responsibility for serving public health. There was not, however, such a frenzy of organization of constructive character until there occurred the recognition of the limitations of individual and familial action, and the need for the coöperation of the integrated mass. It is not necessary to stress the historical development through the emphasis upon sanitation, the institution of machinery for detecting diseases and handicaps, the growth of organized

methods of research, health surveys, and the introduction of plans for communal efforts through various types of social groups. Medical service has grown along social lines so as to affect large groups of the population through medical inspection of schools, baby welfare stations, clinics, hospitals, industrial hygiene, working men's compensation, and such more remote factors as zoning laws, abatement acts, minimum wage laws, and attempts at the reduction of specific diseases such as typhoid, malaria, yellow fever, smallpox, syphilis, ophthalmia neonatorum, and kindred diseases, for the relief and prevention of which the coöperation of large groups or communities is requisite.

In the campaigns against infant mortality and tuberculosis, it was early recognized that medicine in its narrowest concept had been unavailing. The two main factors responsible for these deadly conditions were ignorance and poverty. In consequence, our efforts were directed against these two unfortunate phenomena of social failure, with a result that is well known. In both of these instances, social medicine was essential for the accomplishment of the desired results.

The aim at the reduction of mortality had been inaccurate, while stress was placed upon advising new methods of individual treatment. The attempts at modifying therapeutic measures so as to accomplish greater results were not barren. Only, however, when there had grown ideas for the protection and conserving of communal health, did social medicine function adequately as a prophylactic force. Social medicine then came to mean the conservation of human resources as evidenced in the development of a higher standard of effective healthful citizenship. This meaning of socializing medicine is being transformed into a more positive idea of creating health. It purposes to serve the race through enriching it, promoting a useful longevity through securing conditions favorable to the development of personal and communal health, along physical, mental, and moral lines.

Social medicine is antithetic to individual medicine in its basal concepts. It aims to function through the social group for the benefit of the social group. It recognizes health as a right rather than as a privilege. It refuses to acknowledge the propriety of a stratification of the population in so far as health is concerned, and aims to afford equal opportunities for all groups of the population, regardless of color, creed or social and economic distinction. Socializing medicine, in a word, is democratizing medicine. In the equalizing of health opportunities, prophylactic and therapeutic, it aims to unite rather than separate peoples. Health is a universal factor, and its utility is not to be denied to any one because of circumstances largely determined and controlled by a federation or union of human beings, constituting a group accidentally or purposely united by ties of blood, language, occupation, government, or predilection.

It is manifest, that in its wider meaning social medicine must weigh and interpret social problems in the light of national and international health. On the other hand, it is bound to evaluate disease in terms of defects of the social organism. By both of these processes it reaches out in administration to wholesale practice rather than retail methods.

I may be pardoned for calling your attention to present day tendencies to translate problems of dependency and delinquency into terms of medical causation. It is equally trite to point out the efforts that are being made to reveal the etiological factors of disease in organic maladjustments. It may not be equally obvious that social medicine is seeking to harmonize right living with right government, so that right living and right government may be achieved. A review of the programs of the Sociological Section indicates a constant endeavor to emphasize and support health as a factor in human progress, enabling the individ-

ual and the race to function efficiently. To this end our programs have been dynamic, though our point of view has been relatively static. This is not an evidence of conservatism in program making but rather an evidence of the fact that we have been trying to catch up with our ideals and have not attempted to rush forward until certain of our grounds. Basically, we have recognized that, "the strength of the pack is the wolf, and the strength of the wolf is the pack."

At present, we are in a transitional stage in the socialization of medicine because of the difficulty of recognizing the distinction between individual practice and group organization. To many, the term socialization of medicine is fraught with sinister significance. Our unsatisfactory medical organization has given rise to unwarranted fears on the part of many, who in their own private practice give evidence of a broad social viewpoint. The opposition to the socialization of medicine rises mainly from the failure to grasp its meaning and purpose. The private practice of medicine will not be interdicted, but its sphere of influence and application will be altered. The technics of medical diagnosis, laboratory research, and private practice possess particular interest only in relation to their practical influence upon social betterment and the improvement of human stamina. Now and in the immediate future we shall require many types of agencies, machinery, and institutions to meet adequately the problem of today that will not be necessary at a later age when there will be a better adjustment of social vision to social accomplishments, and medical ideals will have been tinctured with the necessities of social practice.

The socialization of medicine arises from a transference of viewpoint from the individual to the mass. Thus there arises a re-interpretation of existent problems in the light of social causation, social pathology, social diagnosis, and social treatment. Particularization of methods to be employed is determined by an appreciation of the social nexus between specific individuals and their communities. Private practice is certainly impotent to prevent or control typhoid fever, bubonic plague, syphilis, or uncinariasis. The medical social treatment involved for these conditions must be differentiated because of the varying elements in the social causation and social pathology. Social rather than individual peculiarities determine the character of the social prognoses.

The social treatment is similarly dependent upon an understanding of the multitudinous factors entering into the group or community involved. Social practice absorbs individualistic phenomena without annihilating them, if such be desirable for the community. This fact obtains whether one deals with traits of character development, methods of industry, or with medical procedures.

In the future there will be a greater coördination of organization so as to reach throughout the land to raise standards of living, to teach the mode and methods of living, and to make possible the attainment of a complete, healthful life. Then all persons will be enabled to live safely and completely in harmony with the ideas of good citizenship, and with a better understanding of the nature and significance of organized brotherly love. Organized preventive medicine, with curative medicine supplementary, will function through social institutions in the interests of the human race. The welfare of the individual man is not to be sacrificed, but man and the race are to progress together through a richer understanding of the interweaving of their destinies. Herein lies the significance, the meaning, and the purpose of socializing medicine.

# PRACTICAL DISINFECTION OF TUBERCULOUS SPUTUM

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Read before Laboratory Section, American Public Health Association, at New Orleans, La., October 30, 1919

**Here experts have disagreed and the investigation seeks to settle one point definitely, what dilution of what chemical is practicable to disinfect tuberculous sputum. It is an initial bit of research suggestive of a series of similar ones whereby efficient dilutions of various disinfectants can be determined for use with different infectious materials.**

THE practical disinfection of tuberculous sputum is a subject which does not seem to have received special attention and the directions in most of the text books differ considerably. Kendall[1] states that tubercle bacilli in sputum are killed in 24 hours by mixing the sputum with an equal volume of 5% carbolic acid, and Hiss and Zinsser[2] state that 5% carbolic acid will only produce complete disinfection of tubercular sputum in from 5 to 6 hours. Kolle and Wassermann[3] say that bichloride of mercury is not suited for the destruction of tubercle bacilli in sputum since it coagulates the albumen and prevents penetration of the disinfectant. They also state that 5% carbolic acid in equal amounts and 3% carbolic acid in from 8 to 12 times the amount of sputum will destroy the tubercle bacillus in 24 hours if it is once stirred around in this material. Two and one-half per cent carbolic acid will not destroy the tubercle bacillus in 24 hours. Absolute alcohol in 10 times the quantity will disinfect the sputum in 10 hours.

Owing to these facts Stokes and Schmitz[4] performed some experiments with antiformin and carbolic acid in order to effect a penetration of the disinfectant to the tubercle bacillus. The antiformin by dissolving the mucus allowed the germicide to come into direct contact with the organism. Our experiments showed that a 6% solution of carbolic acid in antiformin in an equal quantity of the sputum would destroy the tubercle bacillus in half an hour, and this would represent an actual 3% solution of carbolic acid in the mixture of antiformin and sputum. The sputum contained large numbers of tubercle bacilli and their virulence was tested upon guinea pigs. The disinfected sputum was also centrifugalized, the antiformin washed out of the sediment, and the sediment from 15 cc. was then injected into guinea pigs.

A second disinfectant which was a saponified kresol dissolving easily in water was used as a 6% solution and this mixed with an equal quantity of sputum killed the tubercle bacillus in 2 hours. Weaker solutions of both carbolic acid and this saponified kresol ranging from 2 to 5% failed to kill the tubercle bacillus in the sputum.

The second experiments which we wish to record were performed by combining various strengths of two other disinfectants with various strengths of sodium hydroxide. Disinfectant No. 1

1. Bacteriology, General, Pathological and Intestinal, 1916, p. 434.
2. Text Book of Bacteriology, 1918, p. 486.
3. Hand Book of Pathogenic Microorganisms, 1903, p. 109.
4. Amer. Jour. Pub. Heal., Vol. 2, No. 5, May, 1912, p. 359.

consists of hydroxyl substitution products of the aromatic series, having the group formula Cn $H_2$n-3—OH and contains 40% of oxidized hydrocarbons from tar, 30% of neutral hydrocarbons from tar and 30% of a saponifier. Disinfectant No. 2 consists of phenols, kresols and others of the series occurring in coal tar in solution with soap. These crude disinfectants were used for the purpose of destroying the tubercle bacillus in the sputum and the sodium hydroxide was used for dissolving the mucus and pus so that the disinfectant could get into direct contact with the bacilli. The solutions were added in equal quantity to the sputum and were not stirred up in any way after they were poured in on top of the sputum. The experiments were conducted in the usual sputum bottle used for the collection of this material in most health department laboratories. This will hold 35 cc. of fluid but only 10 cc. of sputum were used, and 10 cc. of the disinfecting fluid were added slowly without stirring. The mixture was then allowed to stand at the room temperature for the various lengths of time indicated in Table No. 1.

At the end of this time interval about 2 cc. of the mixture were placed in a centrifugal tube and enough 10% antiformin was added to fill up the 15 cc. centrifugal tube. This was done in order to destroy any pyogenic bacteria which might kill the experimental animals, but the antiformin has no effect upon the tubercle bacillus itself. This was centrifugalized at high speed for 5 minutes and the supernatant fluid was pipetted off. The sediment was then thoroughly mixed in 15 cc. of salt solution and centrifugalized a second time. This was for the purpose of washing out any antiformin which is quite irritating when injected into guinea pigs. The supernatant fluid was then pipetted off and the sediment mixed in 2 cc. of salt solution. This was then injected subcutaneously into the thigh of a guinea pig. This is a convenient method for the early detection of tuberculosis since the inguinal gland will enlarge in from one to two weeks if live tubercle bacilli are present, and these organisms can be easily demonstrated in stained specimens from the enlarged gland. This method of determining the destruction of the tubercle bacillus was always carried out.

The inoculated guinea pig was kept for one month and at the end of that time 1 cc. of pure, old tuberculin was injected subcutaneously into the abdominal wall. If there is no tuberculosis present the guinea pigs will survive this injection but if they are tuberculous the pigs will die within 24 hours. All pigs, however, showing negative results were chloroformed and autopsied and the glands and viscera were carefully examined for any signs of tuberculosis.

As a control the sputum was examined and it was only used if it contained large numbers of tubercle bacilli: Two cc. of such sputum was then mixed with 4 cc. of a 10% solution of antiformin and allowed to stand for 15 minutes in order to destroy any pyogenic bacteria. The mixture was then centrifugalized, the antiformin removed and the sediment washed again with salt solution. The sediment with about 2 cc. remaining supernatant fluid was then injected into the thigh of a guinea pig. At the end of 2 weeks the inguinal gland was always enlarged and the guinea pig died in 24 hours after the injection of 1 cc. of tuberculin. Tubercle bacilli were always recovered from the gland and frequently from the tubercles present in the spleen and liver of the animal. These controls, therefore, confirmed the presence of virulent bacilli in the sputum before it was mixed with the disinfectant.

The sputum selected for experimentation was the most tenacious and thick material which could be obtained, as we wished to subject the disinfection process to the most extreme conditions possible to find.

TABLE No. 1

Showing Various Dilutions of Disinfectant and Caustic Soda Solution Before Mixture with Sputum and Result of Inoculation in Guinea Pigs of the Mixture of Sputum and Disinfectant

| Disinfectant— | Percentage of Dilution | Percentage of Dilution—Caustic Soda | Duration of Exposure to Disinfectant | Result of Inoculation |
|---|---|---|---|---|
| No. 1 | 0.3 | 0.5 | ½ hour | Extensive tuberculosis |
| No. 1 | 0.3 | 0.5 | 1 hour | Extensive tuberculosis |
| No. 1 | 0.3 | 0.5 | 2 hours | Extensive tuberculosis |
| None (Control Pig) | .0 | .0 | 0 hour | Extensive tuberculosis |
| No. 1 | 0.6 | 1.0 | ½ hour | Extensive tuberculosis |
| No. 1 | 0.6 | 1.0 | 1 hour | Inguinal gland tuberculous |
| No. 1 | 0.6 | 1.0 | 2 hours | Extensive tuberculosis |
| None (Control Pig) | .0 | .0 | 0 hour | Extensive tuberculosis |
| No. 1 | 1.0 | 1.0 | ½ hour | No tuberculosis |
| No. 1 | 1.0 | 1.0 | 1 hour | No tuberculosis |
| No. 1 | 1.0 | 1.0 | 2 hours | No tuberculosis |
| None (Control Pig) | .0 | .0 | 0 hour | Extensive tuberculosis |
| No. 1 | 1.0 | 1.0 | ½ hour | No tuberculosis |
| No. 1 | 1.0 | 1.0 | 1 hour | No tuberculosis |
| No. 1 | 1.0 | 1.0 | 2 hours | No tuberculosis |
| None (Control Pig) | .0 | .0 | 0 hour | Inguinal gland tuberculous |
| No. 2 | 1.0 | 1.0 | ½ hour | No tuberculosis |
| No. 2 | 1.0 | 1.0 | 1 hour | No tuberculosis |
| No. 2 | 1.0 | 1.0 | 2 hours | No tuberculosis |
| None (Control Pig) | .0 | .0 | 0 hour | Extensive tuberculosis |

An examination of Table No. 1 will show that a solution consisting of 1% of disinfectant No. 1 or 2, containing also 1% of caustic soda in distilled water, will destroy the tubercle bacillus in tuberculous sputum if added to this material in equal amounts. This destruction will take place in half an hour. The caustic soda causes the sputum gradually to dissolve and the disinfectant then penetrates to the bacilli and destroys them. The actual percentage of the disinfectant and alkali in the mixture of sputum and disinfectant is 0.5%.

## CONCLUSIONS

The custom of simply placing sputum in a 5% solution of carbolic acid and expecting it to be disinfected in a short time is probably a dangerous procedure since it gives a sense of false security and the tuberculous sputum is not disinfected. The use of a 1% solution of disinfectant No. 1 or 2, and perhaps other such disinfectants will destroy the tubercle bacillus in sputum if the disinfectant also contains 1% of caustic soda. This is important in the practical disinfection of sputum and the solution might also be used in the sputum bottles which are sent through the mail to hygienic laboratories for the diagnosis of suspected tuberculosis. The Rideal-Walker or the Hygienic Laboratory carbolic acid co-efficient used for testing the strength of a disinfectant has no direct bearing upon its destructive action upon the tubercle bacillus in sputum since the high co-efficients of these kresols would suggest that a very high dilution of the disinfectant should be used in sputum, and yet we find that it takes a 1% solution of a kresol to cause the destruction of the tubercle bacillus in sputum.

Further work should be done in order to hit upon a standard which might measure the real practical efficiency of the disinfectant when used upon various materials. It would seem that a 1% solution, as mentioned above, is efficient for tubercular sputum and probably therefore for the sputum of influenza, pneumonia and other respiratory disease. Similar experiments should be performed in order to test the destructive action of various disinfectants upon feces and other excreta, as it might be that the addition of the caustic alkali to the disinfectant might render the kresols much more efficient. Dilutions of practical efficiency, therefore, for the various disinfectants when used upon different infectious materials could thus be established.

The above work would suggest that the official liquor *cresolis compositus* which contains a large percentage of alkali and kresol might prove an efficient disinfectant for sputum, and a few experiments such as those described in the article might easily determine this point.

# CHILD HYGIENE

JULIUS LEVY, M. D.,

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Chairman's Address before Child Hygiene Sessions, American Public Health Association, at San Francisco, Cal., September 14, 1920.

IT SEEMS that the public has at last awakened to its responsibility for the life, health, and happiness of its children. This has followed a little slowly, perhaps, upon the long recognized principle that the public is responsible for the educational and moral welfare of the child, but this handicap in the element of time will soon be overcome by the momentum that the movement for the physical welfare of the child has developed.

This general interest in the life and health of the child is variously designated, depending somewhat upon the particular contact that a person has had with the child problem or, perhaps, by his or her special experience with, or outlook on life.

The publicist, the legislator, or the business man, having acquired through the great war, a better realization of the value of food, coal, forests, and manpower, and the seriousness of wastage in these important elements for the world's preservation, is ready to adopt the idea of preventing human wastage, securing of human efficiency, and is apt to apply the words "Child Conservation" to the modern movement to safe-guard the health and happiness of children.

The social worker, the philanthropist, the teacher, the criminologist, many physicians and psychologists, who have become aware of the large number of men who are physically unfit for military service, the large number of school children who are hampered in mental and moral development by physical defects, the great number of men, women, and children who lead unsuccessful lives and are unable to adjust themselves to society on account of defects and deformities, physical or mental, are apt to apply the words "Child Welfare" to the work that is being undertaken for the protection of the life of the child, influenced undoubtedly in their designation, by the pressing need for institutions for the feeble-minded, dispensaries and hospitals for the sick, clinics for the defective and deformed, physical training for the weak, organized charity for the dependent.

Pediatricians and public health workers, who have learned that many disorders of later life, most defects and deformities of early youth, a great deal of the mental retardation and moral distortions of early childhood and adolescence are the result of improper nurture and nutrition in early infancy, of unfortunate heredity and poor prenatal environment, feel that the only proper designation of the modern movement for the protection and well being of children is "Child Hygiene." They are influenced, perhaps, by the derivation of the word, "Hygiene," from the Greek, "to be healthy," and which has for its function the task of rendering "Growth more perfect, decay less rapid, life more vigorous, death more remote."

Preventive Child Hygiene work must begin at the beginning. It may be of interest to indicate to what an extent many of the defects and deformities that were discovered in the young men who applied for military service, or even the defects and deformities that are found in school children, begin in early infancy and in the pre-school period.

It is estimated that 2% of school children in the State of New Jersey have heart disease, this means 12,000 children. This is partly the result of contagious diseases in early life which leave the

heart muscles anemic and flabby, with little reserve force to meet the requirements of vigorous childhood.

Spinal curvature and poor posture, which have given considerable impetus to the movement for physical training, have a basis in anemia and malnutrition which are the result of improper care and feeding in the first years of life. While these conditions are frequently discovered in school children, they develop as the result of improper nutrition of the first two years of life and improper guidance in the pre-school period. Deformities of the bones, such as pigeon breast, bow-legs, knock-knee, weak feet or flat foot, so frequently found in school children of the poorer neighborhoods, are particularly the result of rickets, a disease of poor nutrition and faulty hygiene that occurs usually between six months and two years. In various schools it has been estimated that from 3 to 30% of the children are suffering from the results of rickets. It has been very gratifying in Newark to discover after several years of supervision of the Italian babies that rickets has been almost eliminated from this group. The relation of rickets to defects and deformities is well illustrated by the reports from the British army where defects of extremities, flat feet, malformations of chest and spine and stunted growth were responsible for 41.78 rejections per thousand applications. In a series of 717 cripples under 16 years of age 10% of the conditions were found to be due to rickets.

Of 22,000 school children in London 2% showed some eye disease, of which three-fourths was said to be due to unwashed faces and dirty hands. Fifteen per cent of all eye troubles of school children are said to be due to a form of disease of the eyelids and cornea, which is the cause of a great deal of blindness and begins between the fourth and sixth years of life and is found among children suffering from malnutrition during early infancy. Of 408 cases of hypermetropia (far sightedness) 103 were noted before six years of age and of 378 cases of hypermetropia with astigmatism 186 cases were noted before six years of age. Blindness is probably the most serious and saddest blight that can befall any child and when we remember that 84% of this blindness is the result of neglected ophthalmia neonatorum and that effectively organized child hygiene work can absolutely eliminate ophthalmia neonatorum as the cause of blindness, we have an excellent illustration of the value of preventive work during the pre-school period over the methods now employed and approved by certain men and women who are unable to visualize the great task of preventive medicine and hygiene.

Departments of health in the development of their Child Hygiene plans should be influenced by these considerations and seek the active coöperation of all who are willing to devote themselves to the program of prevention. Among the many activities that come under this head special emphasis is to be placed upon the perfection of birth registration, the supervision of expectant mothers, the improvement of obstetrical service, the extension of maternal nursing, the instruction of mothers in child nurture, the supervision of the child from conception to adolescence, in the home, the school, playground or shop, and the removal of economic, social, and sanitary conditions that interfere with the integrity of the family and the well-being of the mothers and children. Child Hygiene includes, therefore, all the activities that are necessary for the protection of the life and the happiness of the child and embraces in platonic coöperation all the agencies that affect the physical and mental well-being of the coming generation. Nothing, therefore, that is essential to the well-being of the family is foreign to the interest of preventive child hygiene work. While it is devoted to the science of making "growth more perfect, life more vig-

orous," one of the direct results of its activities is to make "decay less rapid and death more remote." *We would emphasize that it is not desired to permit conditions to develop that would require doctors, clinics and medicine, crutches and braces, when right living and health environment can prevent their need.* It cannot permit itself to spend for the treatment of a few the money that will maintain in health the many; to spend for the discovery of defects in school children the money that will prevent these defects from developing when applied to the instruction of the mother in child nurture and to the supervision of children of pre-school age; to spend in the treatment of marasmus, atrophy, summer complaint, the money that can prevent marasmus, atrophy and summer complaint and make healthy romping children if the money is spent in teaching and helping mothers to nurse their babies. It is to be remembered that there is only a limited amount of money and energy available. Shall a public health department spend it "to make growth more perfect, life more vigorous," or merely "to make decay a little less rapid and death a little more remote?"

□

# JUDGING THE KEEPING QUALITY OF MILK BY A PH METHOD

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Read before Laboratory Section, American Public Health Association, at San Francisco, Cal. September 15, 1920.

**With constantly increasing milk supply areas for large cities knowledge of how long the milk will keep is important. Bacterial counts, while important for other information, do not give definite answers about this. A hydrogen-ion test may be applied which will afford a reasonable judgment on this point.**

THE method usually applied in a study of the sanitary condition of dairy products is the bacteriological count. This is determined by the plating method, which gives an approximation of the number of groups of live bacteria present in the sample, or by the microscopic method, which gives an approximation of the total number of bacteria, both dead and living, which are present. Either of these methods is a valuable aid in judging the care which has been exercised in producing the milk, and the precautions observed to prevent the growth of any bacteria which may have gained entrance.

The bacteriological count tells little or nothing about the actual ability of the bacteria present to produce the changes which would make the dairy product unfit for the purpose intended, and it is often the case that the sample of milk with so high a bacteriological count that it would be condemned under most of our city ordinances is actually a good grade of milk when judged as to keeping

quality and type of fermentation which develops when held at the temperatures common to the home.

To find a method for examining market milk which would give readings more nearly representing the actual ability of the bacteria and enzymes present to produce the changes of interest to the producer and consumer, the writers have made a study of the ability of bacteria and enzymes present in milk to cause a change in hydrogen-ion concentration of a broth solution to which the milk was added, and the whole incubated for not more than eight hours.

Ordinary bouillon cube broth was prepared and the indicator, Di bromo thymol sulphon phthalein (Brom thymol blue), added. The broth was then adjusted to PH 7.0 and 10 cc., portions placed in large test tubes and sterilized.

One-tenth cc. of each sample of milk to be tested was added to a tube of the broth-indicator solution prepared above and the whole incubated at 37° C. At the end of one hour periods the samples were examined and the PH of any tubes showing marked change accurately determined by comparing with standard tubes containing indicator and solutions of known hydrogen-ion concentration. A comparator has been designed in this laboratory which greatly facilitates this colorimetric hydrogen-ion determination.

The samples of milk containing many very active bacteria will show a change in PH at the end of one or two hours while the better samples will show little change at the end of eight hours.

A score has been given to samples with a final reading of PH 5.8 at the end of one to eight hours and to the samples having different readings at the end of eight hours.

Under this system certified milk will score 95 or 100. The other grades will score from 20 to 95.

This system of scoring milk checks up only in a general way with the bacterial count but checks very closely with the actual keeping quality of the milk. A sample of milk for instance having a PH reading of 6.2 at the end of eight hours would score 75 and be on the verge of souring at the end of 24 hours if kept at room temperature. Samples scoring more than 75 would be sweet at the end of 24 hours, while samples scoring under 75 would be sour at that time. Likewise, samples scoring 55 would be on the verge of souring at the end of 20 hours, while those scoring 60 or better would be sweet and those scoring under 55 would be sour. A very few exceptions to these rules are found. One can tell from the score how long a sample of milk may be expected to remain sweet if kept at a certain temperature.

## SUMMARY

It seems to the writers that this method gives results which tell what the producer, dealer and consumer desire to know, viz., the length of time that a sample of milk may be expected to remain sweet under certain conditions. This cannot be judged by the bacterial count using either the plate or microscopic method.

The technique of making the test is so simple that anyone who can match colors may be taught in a few hours' time to grade milk.

The cost of the test is one tube of broth for each sample examined.

The time required to pick out the poorest samples of milk is from one to four hours, while the best samples may be given their proper grade at the end of eight hours.

There is no expensive equipment necessary.

# EDITORIAL SECTION

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## THE OFFICIAL AND THE NON-OFFICIAL HEALTH AGENCY

Probably no group of opinions ever brought together at once has till now reflected so many phases of opinion in the question of how official and unofficial health agencies are to work together as does the symposium in this issue of the Journal. The articles set forth the conservative point of view of the trained physician on the one hand and the energy and scope of vision of the keen business man on the other, and between the two lie various suggestions as to lines of coöperation. On the one hand there is the professional health administrator, responsible to the last penny to his auditor for compliance with the strict letter of the law as it may locally be interpreted, and on the other the flexibility that a comparatively free agent may have in the trying out of promising experiments. The second course is not legally open to the usual professional health officer, yet it is a most important factor to the betterment of the health of the people.

A couple of examples from other fields of work will serve perhaps to illustrate possibilities of accomplishment by the hand that is free. Twenty-five years ago or more Mr. A. L. Rotch established on Great Blue Hill near Boston a private meteorological observatory. It was his property, his own venture and there was no one to question his acts. He chose for one of his departments here to undertake the development of promising suggestions as yet untried. At considerable cost he ventured on experiments in determining the height of clouds. He was wonderfully successful and following his entering wedge measurements of the kind became a part of the regular duties of many observatories here and abroad.

At a fortunate moment a tailless kite was brought to the Blue Hill Observatory and on Mr. Rotch's experiments with this new device an international system of synchronous kite flights was established. Practically all that was known of air conditions at great heights (until the Great War gave impetus to research) was thus due to the initiative of a "non-official" meteorological agency.

A second illustration may be drawn from the famous Lowell Institute of Boston, the trustee of which is the President of Harvard University, A. Lawrence Lowell. Although to a majority of those who know its name the Institute suggests a superb series of lecture courses, this is only one of its functions.

Long ago it seemed clear to the father of President Lowell, then trustee of the Institute, that a school to teach drawing especially, was a desideratum. He established and maintained such a school for a number of years. It proved so successful that the State saw the value of the experiment and proceeded to establish the Massachusetts Normal Art School. President Lowell felt that there was opportunity to give the laboring man a better opportunity for learning at a special school, and established one. This was speedily taken over by a local industrial organization that was convinced of its importance. At the present moment the Lowell Institute is maintaining a school for industrial foremen. This has been carried beyond the experimental stage and it is very plain that there must presently be added to the public school system a school adapted in its times and conditions to the needs of ambitious wage earners in employment, who seek to become better workmen and leaders in their vocations. It required the quiet, flexible control of a private agency to establish these needs and to set them forth in terms of such success that the public was made to feel the necessity of undertaking itself to fill the needs.

The conditions in education parallel those in public health, with the difference that education has now acquired so flexible a public management that municipalities and their populations do not stand aghast when experimental departures are suggested from the regular routine. In public health there is quite as much need for freedom to try out seemingly favorable leads, but neither public sentiment of today nor the legal environment of administration will permit this. Here most certainly there is a field for the private agency.

There is, however, one factor to the limitations of professional health officers that no one of the writers in the Symposium has emphasized, but which nevertheless is of greatest practical importance, the question of what it is possible for the health officer to undertake.

There is perhaps no better outline of the situation of the professional health administrator than that expressed a while ago in an address before the students of a local school. The speaker said, "In his community as it is and with the condition of the public mind as he finds it, the health officer must select the few most important things that his appropriations will permit him to undertake." Such a health officer is not in the class of political appointees, against the existence of which it is futile to shut the eyes, but is a sincere man who seeks honestly to do his duty. Cities exist in which the routine work required by law makes most serious inroads into appropriations, much of it of the "decency" order rather than true health work. Again, the health officer's carefully figured appropriation is cut down a third or a half by the Council or governing body. He had every penny of his estimate accounted for in needed work for the health of his community, and must omit a fairly large part of this work. What chance has an officer under such conditions, and the conditions are not overdrawn,—what chance has he to undertake other than what he can of old, stereotyped and even antiquated routine, and how can he be expected to keep abreast of the progress in his profession?

It may be well to theorize about doing your work so excellently that your community will rise to a man to your support, but it needs more than the average of knowledge, skill and understanding of the psychology of a population to get such results easily in the complex of modern city or community life.

Here comes in one of the functions of the non-official agency. Working in coöperation with the official agency it is able to fill gaps, to back the health officer in his requests and to prove itself a force in the health education of the people. The essential of this help is coöperation but coöperation is what is

unfortunately sometimes forgotten. In the excitement of the movement the non-official agency may forget the fact that health work does not admit of competition. The requirements in caring for public health are that all agencies join forces and under the advice of a competent official, public health administrator the non-official agencies will find plenty of opportunity for accomplishment.

## PROGRESS OF GOVERNMENT ACQUISITION OF THE QUARANTINE

In the JOURNAL for October, page 802, in speaking of the acquisition of the quarantine service by the U. S. Government, the statement was made that, "One by one the ports of the Atlantic and Gulf states came under Government quarantine supervision, with Boston and New York alone outstanding." This statement made from the memory of discussions at the time of the transfer of the Boston station proves to have been somewhat in error. The port of Baltimore should have been included for it retained local control until 1917, about a year longer than Boston.

In the course of the correspondence with the U. S. Public Health Service with reference to the matter, Assistant Surgeon General R. H. Creel, in charge of the quarantine, has furnished information concerning the dates of the transfer of different ports to Government control. This has historical interest and is here given in abstract. It has value certainly in this respect, that it shows the way in which the U. S. Government acquired its control of the quarantine, not by exercise of authority or by seizure, but through the realization on the part of local authorities that the National Government is best fitted to maintain a uniform and standardized system. In guarding the gates of a great country against the entry of disease uniformity and standardization are important fundamental factors.

The sequence of acquisition by the U. S. Public Health Service of the quarantine of the principal ports follows and the list exhibits some examples of neighboring ports putting themselves under Government control at the same time, while some other dates show a goodly measure of independence and difference of opinion within the same state.

Government control of the quarantine seems to have been appreciated first on the West Coast, for in 1888 San Francisco and San Diego, Cal., and Port Townsend, Wash., were acquired by the Federal Government followed in 1889 by the station at Cape Charles, Va. In 1892 Delaware Breakwater, Del., became a Government station followed in 1893 by Reedy Island, Del., and in 1894 by Cape Fear, N. C. In 1889 the Columbia River, Ore., station was acquired and the next year, 1900, three important ports on the South Atlantic coast, Savannah, Ga., and Tampa and Key West, Fla., were taken over from the local authorities. In 1900 quarantines were established at Honolulu and Hawaiian ports, in the Philippines and in Porto Rico, while that for the Virgin Islands dates from 1917. In 1903 Portland, Me., became a Government station and the same year twelve small ports in Florida and Georgia were given up to the U. S. P. H. S. In 1905 Perth Amboy, N. J., became a Government station followed in 1907 by Alexandria, Va., and Mobile, Ala. The year 1918 was one of considerable activity in acquiring control of the quarantine of Southern ports, and Charleston, Beaufort and Port Royal in South Carolina and Newbern and Washington in North Carolina were ceded to the National Government. In 1909 the Government took charge in New Orleans, La., and Pascagoula, Miss., in 1911, Galveston, Texas, and in 1912 Eastport, Me., and Providence, R. I., were added to the growing list of ports in which the Government had been given complete quarantine control. Then followed Boston, Mass., and Darien, Ga., in 1916, Baltimore in 1917 and Marcus Hook in 1919.

The control in Baltimore has been under a lease, pending an appropriation

from Congress for the purchase of the plant. This has been secured and the physical transfer will be completed before the close of the present year.

At Philadelphia the situation has been unusual. Reedy Island, Del., about eighty miles below the city, has been a station of the U. S. P. H. Service for more than twenty-five years, operating for the entire Delaware River section, For a number of years past the State of Pennsylvania has had its own quarantine station at Marcus Hook about five miles below the city of Philadelphia. There resulted a duplication of quarantine formalities in the inspection of vessels from foreign ports. Pennsylvania discontinued its quarantine, the station at Marcus Hook was taken over by the Government last year and is now the station for the Delaware, Reedy Island being used for detention and disinfection purposes.

At the present moment the port of New York is operated by the State, but an appropriation is available for the purchase of the plant and the New York State Legislature has passed an Act enabling its transfer to the United States. This will probably be effective by the first of the incoming year, and from that moment the administration of the whole country so far as its quarantine regulations are concerned will be on the same model. It is a victory of peace of more value than are most victories of war.

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The attention of state health societies of general or of special character is directed to two matters in recent issues of the JOURNAL, which will be of interest to them. In the issue for September, page 742, there is the report of the A. P. H. A. Committee on State Health Societies. One fact evident at the first glance is the great number and variety of such associations. With so many there should be considered the possibilities of coördination and coöperation.

The Ohio Public Health Association is the result of a carefully considered plan in a state where public health administration has received much attention the past year or two. The great voluntary health organization of the state has at the same time established itself on a new basis. It is evident that there is involved much thought and consideration. Because of this, the JOURNAL requested the Secretary, Mr. H. E. Roulfs, to outline the new form of the association and present the reasons for the change. His article is to be found in the November JOURNAL, page 897. State associations will do well to read the report of Mr. Roulfs.

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With this issue of the JOURNAL Dr. Arthur Lederer again assumes charge of the Public Health Laboratory Notes. While Dr. Lederer has been fitting himself to his new sphere of activities in Chicago, the notes have been prepared by Dr. F. H. Slack and Mr. J. M. Strang. The departure of Mr. Strang to a distant position and an increase of the normal duties of Dr. Slack have been reasons for their discontinuance of the work. The thanks of JOURNAL readers is due to these two young men for a considerable period of excellent presentation of the Laboratory Notes.

# BOOKS AND REPORTS REVIEWED

**A Manual of Physical Diagnosis.** *Austin Flint, M. D., 8th Edition, Revised by Henry C. Thacher, M. S., M. D., Philadelphia: Lea and Febiger, 1920. P. 326. Price, $3.00.*

The eighth edition of Flint's Physical Diagnosis has been somewhat amplified by a discussion of the irritable heart, and of normal cardiac variations, by a fuller account of pericarditis and of pulmonary tuberculosis and by attention to the bronchopneumonia of the recent epidemic of influenza.

As in the early editions, much emphasis is laid on percussion and auscultation, methods of examination which as Thacher says are in danger of neglect now that so much reliance is placed on laboratory methods. An instructive discussion of the physics of sound introduces the reader to the detailed account of the physical examination of lungs and heart. There are some very good descriptions in these chapters, especially those of the causes of flatness, dullness and abnormal resonance; of râles, of phthisis, of sounds and murmurs, and of the pulse. At times, however, there are repetitions in the first half of the book, and there are some omissions and errors. There is no discussion of arrhythmic respiration, such as Cheyne-Stokes breathing. In the account of auricular flutter the following sentence appears (p. 269): "The change from normal rhythm to auricular flutter is not abrupt, as in paroxysmal tachycardia, but is separated by a period of auricular fibrillation." This should read: "The change from auricular flutter back to normal rhythm is not abrupt, etc." On the next page the paragraph, "Inspiration may cause decrease in the size, even to obliteration, and frequency of the pulse, in cases of inflammations and tumors of the mediastinum, pericardial effusions and adhesions (*pulsus paradoxus*)." As a matter of fact, the frequency is not decreased with inspiration in the paradoxical pulse and moreover the paradoxical pulse is dependent on the type of respiration (thoracic) of the subject (who may be perfectly normal) and not on the pathological lesions.

Again, on page 280, the mitral direct murmur (*mitral stenosis*) is said to begin sometimes with the second sound and to continue to the following first sound. It never begins with the second sound—there is always a short but definite interval between the second sound and the beginning of the murmur, as the authors show correctly in their diagram of the murmurs on page 279. This point is very important, for it helps to differentiate the diastolic murmurs of aortic regurgitation and mitral stenosis. In the discussion of patency of the *ductus arteriosus* on page 331, the aid sometimes obtained in establishing the diagnosis by the finding of a high pulse pressure and Corrigan pulse should be added.

In the last chapter there is an excellent scheme of physical examination but in the text very little is written except concerning the lungs and heart. Practically no mention is made of head, neck, extremities and reflexes and very little of the abdominal organs. It would seem wiser to limit the book strictly to the chest and to entitle it as such, for example, "Physical Examination of Heart and Lungs."

The book can be recommended to the medical profession because of its unusually good discussion of auscultation and percussion.

PAUL D. WHITE, M. D.

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**Nursing Mental Diseases.** *Harriet Bailey, R. N., New York: Macmillan Company, 1920. P. 175. Price, $1.60.*

There is no dearth of literature either scientific or popular on the subject of mental disease, but little has been put into a form that is at once scientific and popular and also compact. For that reason "Nursing Mental Diseases" by Harriet Bailey, R. N., has a speical value. Within the compass of 175 pages she has put together what constitute the minimum essentials of the knowledge which those should have who have any contact with mental cases.

Her method of presentation of her material has been to give first, a brief history of the care of the mentally sick, and then

after touching on some legal aspects of mental disorders, she treats briefly the cause of, and preventive measures for, mental disease. All this is by way of introduction to the real subject matter of the book: the nursing of the different types of mental cases. This part of the text is divided into six chapters, each of which deals with one phase of the subject, such as "Nursing in the Toxic Cases."

The author has a happy way of subdividing each subject, using centered sideheadings—devices which makes the book easily readable either as text book or as a guide to the family in dealing with a troublesome case. Especially valuable is the space given to children with neuropathic tendencies and to the subject of those born mentally deficient, which includes a summary of the Binet-Simon tests for intelligence age as arranged for the Johns Hopkins Dispensary.

Perhaps no greater praise of the clear logical style of the book can be given than to say that in these brief paragraphs Miss Bailey has expressed clearly and simply the whole theory of the psycho-analysts who belong to the school of Freud.

This is a book which it would be well for every normal person to read. It would be helpful in many ways, especially in making it possible to guard against some of the easily prevented mental breakdowns. It is a cheerful, optimistic book not of the Pollyanna type but of the wholesome kind that broad-minded, scientifically trained persons are peculiarly fitted to make.

MAY BLISS DICKINSON, R. N.

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**Pasteurization of Milk.** *Report of Committee on Milk Supply of the Sanitary Engineering Section, A. P. H A., Boston: A. P. H. A., August, 1920. P. 32, Paper. Price, 35 cents.*

This report has recently been published in pamphlet form, and contains up-to-date information on milk pasteurization which should be in the hands of everyone interested in the improvement of milk supplies. The phases of milk pasteurization covered by this report include the present status of milk pasteurization, the effect of pasteurization on the composition of milk, the process of milk pasteurization, the analytical control of pasteurization plants and state and municipal supervision of the pasteurization of milk.

The first section of the report is devoted to the present status of milk pasteurization in the United States and the Dominion of Canada, giving the number of plants in operation, the state, territorial and provincial control exercised over these plants, the control exercised over the production of market milk in our largest cities, and a review of the official definitions of pasteurization established by the various departments of our Federal Government interested in milk supplies, and by the various state boards and departments of health. This review calls attention to the lack of control and uniformity of methods and the absence of public appreciation of pasteurization as a means of safeguarding public health.

The effect of pasteurization on the composition of milk is covered by a review of the results of experiments on the effect of heat on milk and experiments on infant feeding.

The process of milk pasteurization is limited to a discussion of the "holding" process, and a definition of "pasteurization."

The material included under the heading of mechanical features and the operation of pasteurizing plants is discussed from the viewpoint of methods used. The methods considered are the pasteurization of milk in bottles, and the pasteurization of milk with intermittent and continuous flow apparatus. A list of mechanical defects in pasteurization apparatus which affect the process of pasteurization is also discussed under this subject.

The phase of the report covering the analytical control of pasteurization plants includes a discussion of the physical, chemical or physico-chemical and biological methods and procedure used to determine the effectiveness of the pasteurization process.

The last section of the report deals with state and municipal supervision of the pasteurization of milk, containing a discussion of the time and temperature requirements, the department of a state or municipality to control pasteurization, requirements regarding apparatus, qualifications of plant operators, bacterial results, and penalties for violations of regulations.

**Standard Methods for the Sanitary Analysis of Milk.** *Third Edition. Boston: American Public Health Association, 1920. Price, 30 cents.*

A summary of the more important changes from the second edition follows:

1. The scope of the report has been broadened to cover the sediment test and the examination of milk for the presence of long chain streptococci.

2. A summary of required procedures is given at the end of the report.

3. Encouragement is given for further investigation of promising new laboratory methods.

4. Official recognition is given to microscopic counts made directly from unpasteurized milk.

5. Methods for determining the H-ion concentration of agar media are given.

6. It is recommended that the practice of speaking of agar plate counts as showing the "number of bacteria per cc.," be discontinued and the words "number of colonies" used.

7. It is insisted that punitive actions should be based upon the average results from a series of samples, and that, where possible, the routine counts should be verified by suitable procedures when actions based on their use are likely to be questioned.

The first edition of the Standard Methods for Milk Examination was prepared and issued in 1910. A second edition of this report was prepared in 1916 by a committee which worked in coöperation with committees from the Society of American Bacteriologists and the American Dairy Science Association.

The present third edition report has been prepared by a committee consisting of W. H. Park, chairman; M. P. Ravenel, R. S. Breed, J. A. Anderson and H. A. Harding, with B. H. Stone and W. R. Stokes as adjunct members. This committee has sought and obtained the coöperation of still other associations interested in the sanitary control of milk in an effort to make the report truly representative of American laboratory workers.

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**The American Red Cross Health Center.** *American Red Cross, Washington, D. C. P. 64.*

In September, 1919, the American Red Cross issued a pamphlet entitled "Health Centers. A Field for Red Cross Activity." This pamphlet announced what was to be the peace time program of the Red Cross in the field of public health, but was written in general and somewhat vague terms. This new pamphlet, which is dated September 1, 1920, presents a definite and practical project. There are nine chapters and an appendix, which discuss what the American Red Cross Health Center is, how to select and equip a place, how to put people in touch with existing agencies, how to distribute health literature, how to carry on an active campaign of health education, how to prepare and conduct health exhibits and demonstrations, how to give health instructions through class and club work, how to conduct growth and nutrition clinics, how to begin organizing a Red Cross Health Center, and construction and cost. Much valuable information as to sources of public health literature, suggested topics for health lectures, lantern slides and motion pictures on health, exhibits, health playlets and health stories is given. It is to be noted that this Red Cross conception of a health center is an institution for health education and information, which is adaptable to any type of community. It is stated that a subsequent pamphlet will consider lines of development, such as clinics and other medical activities. The booklet is illustrated with 28 pictures, besides many diagrams and drawings. The cover displays an attractive picture in colors entitled, "The Spirit of the American Red Cross." The whole pamphlet is most attractively gotten up and is an important and valuable addition to public health literature. With this pamphlet for inspiration, Red Cross Chapters should be able to contribute in a logical and practical manner to public health.

**The Symposium on Health Centers from the meeting of the Association in San Francisco will be presented in an early issue of the JOURNAL.**

# ASSOCIATION NEWS

## PROCEEDINGS AND DISCUSSIONS OF THE AMERICAN PUBLIC HEALTH ASSOCIATION AT SAN FRANCISCO, CAL., SEPTEMBER 13-17, 1920

### MEETINGS OF THE BOARD OF DIRECTORS

Twenty-one members of the Board of Directors of the A. P. H. A. were present at San Francisco and participated in two meetings, September 13 and 15, respectively. In addition to routine business the following matters were acted upon:

Officers were elected for the ensuing year, the list of them being given in the November issue of the JOURNAL, page 889, and on the first white advertising page in the current issue.

Dr. Lee, the treasurer, reported from the auditor's report as follows: Total income for the fiscal year, $49,015.04; total expense, $49,235.33; cash on hand September 1, 1920, $2,763.10.

Through a resolution disapproval was expressed of the proposed amendments to the California constitution aiming to prohibit compulsory vaccination, to prohibit vivisection, to create a separate licensing board for chiropractors, and to extend the use of drugs to chiropractors.

The Committee on Federal Health Coördination advised against activities calling at this time for a ministry of public health. Instead, it was felt best to support the joint resolution already introduced into Congress, calling for an investigation of present federal health activities with a view to coördinating the latter.

It was voted to appoint a committee to meet with a committee of the National Association of the Motion Picture Industry for the purpose of discussing a plan of utilizing motion picture theaters in the promotion of public health and in the combating of epidemics.

The Maine Public Health Association was elected as an affiliated society.

Designs for association insignia were considered but none were adopted. The committee was instructed to continue its efforts in obtaining new designs.

Appreciation was expressed of the importance of committee reports on public health standards, and the Executive Committee was instructed to promote this work.

It was voted to appoint a committee to undertake activities in opposition to the anti-vaccinationists.

The meeting place for the 50th annual meeting was not definitely selected, but the Executive Committee was instructed to make the selection after careful investigation of facilities and coöperation available.

The Executive Committee voted to take especial pains for the 50th annual meeting to insure programs of the greatest value. To this end the Executive Committee will confer with section program officers and formulate rules governing the preparation of all programs. Since the next annual meeting will be of international importance, the programs will include representatives of foreign countries and will in general be of international significance.

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## RESOLUTIONS ADOPTED BY THE AMERICAN PUBLIC HEALTH ASSOCIATION, SAN FRANCISCO, CAL., SEPTEMBER 16, 1920.

The report of the committee on Resolutions was a portion of the business of the General Sessions at the San Francisco meeting of the association on Thursday afternoon, September 16, 1920. Dr. Haven Emerson, chairman of the committee, read the successive resolutions, which were adopted one at a time by the meeting.

1. **Report of the Committee on Necrology.** This report was voted to be a resolution by the members present at the session and was adopted.

Your committee begs to report the deaths of several members of the association during the past year who had played a prominent part in its work.

In October, 1919, died Dr. D. Orvananos, for many years the first and efficient sec-

retary of the Federal Board of Health of Mexico. Like his coadjutor, Dr. Liceaga, Dr. Orvananos possessed all the qualities of a great secretary. Learned, diligent and courteous, he performed the great task of developing health work in Mexico at a time when little exact knowledge was possessed of the origin of the endemic diseases of the tropics.

His affability was constant and his sympathies as wide as the continent. The association sends to his family and many friends these words of appreciation and the assurance that his memory will long remain green with those who had learned to know and appreciate him.

A yet greater loss occurred to the association in the death of Major General Wm. Crawford Gorgas, an honorary member of the association since 1915. His work in Cuba, in Panama and in South Africa are known to all, and his death, while on another international mission, especially illustrates not more the fact that science knows no country than that the great Anglo-Saxon mother nation recognizes in her offspring, wherever born, those qualities of head and heart which reach around the world in their search for advancing human betterment. With other brothers across the seas we lay our wreath of amaranth on the grave of him, loved, respected and admired, and extend to his desolate family words of sympathy for one who has lent signal honor to this association by his long membership in it and distinguished credit to public health throughout the whole known world.

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Dr. Louis Caballero died in July, 1920, and while not known to many, owing to the absence which war conditions demanded, is recalled as one who always played a prominent part in public health in his own country of Mexico.

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Dr. Henry B. Baker of Michigan, ex-president of the association, died a few days ago. One of the earliest public health workers, his work did much to popularize public health in Michigan and throughout the United States.

Of a retiring disposition he was not known to new members beyond his own state, but the older members will long recall his annual reports as among the most extended and best work of the early nineties. We extend to his family our sympathy and express the satisfaction of knowing that he died full of years and meritorious achievements.

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Dr. H. W. Kimball of Providence died in March, 1920, and was but a short time a member, but was known to his friends as an enthusiastic worker on health, as was Dr. R. Makibbin of Baltimore, also but two years a member; like Dr. Louis M. Palmer of Framingham, Mass., and Dr. Stafford Baker Smith of New York City.

To the friends of all of these more recent members the association extends its sympathy and expresses its regrets that in the strange mysteries of the Fates the thread of life so slender should have been cut when the powers of these workers for human betterment were at their highest. But we may well recall the words of Horace "Non Omnis Moriar," and remember that the waves of human action flow on, bearing their influence for good to the farthest confines of space.

2. **Resolution Concerning Public Health Conditions in Porto Rico.**

WHEREAS, the island of Porto Rico has been an American dependency since 1898, and

WHEREAS, the health conditions of the island remain to this day in a most deplorable condition of neglect, the death rate being twice as high as now prevails in continental United States, and

WHEREAS, this condition is largely due to the prevalence of such diseases as hookworm, malaria, diarrhea and enteritis, dysentery, infantile tetanus and others which are all amenable to enlightened public health control, and

WHEREAS, the continuance of the present state of public health in Porto Rico is a matter for which the government of the United States is primarily responsible,

*Be It Resolved, First,* that the American Public Health Association appoint a committee of five, of which the General Secretary shall be a member, which shall assist in the organization of a branch of the American Public Health Association in the island and the coördination of the activities of such non-official health organizations of the United States as the American Red

Cross, the International Health Board, the National Tuberculosis Association, National Child Welfare Association, etc., for the carrying out of a comprehensive health program.

*Second:* That this committee direct the attention of Congress, at its next session, to the need for a well coördinated and supported official health program for the island under federal direction and at federal expense, to be continued for a number of years, until such health administration can be transferred to the authorities of Porto Rica, and

*Third:* That the American Public Health Association send a copy of this resolution to the Secretary of War and to the Congress when it convenes in December, 1920.

3. **Resolution Concerning Rat Extermination.**

WHEREAS, the sea coast cities of many nations have been subjected to numerous attacks of Bubonic Plague, and

WHEREAS, many of the cities along the sea coasts are making heroic efforts to prevent the plague by rat-proofing buildings and exterminating rats, and

WHEREAS, the agricultural regions of the American Continent, some of which are situated far inland, are badly infested with rats, and

WHEREAS, very little effort to exterminate rats is being made in agricultural sections, therefore

*Be It Resolved,* that the federal, state and municipal governments of the countries included within the American Public Health Association put forth every effort to exterminate rats or other animals that may carry plague-infecting fleas, the same effort to be put forth inland as has been put forth along the sea coast;

*Be It Resolved,* that a committee be appointed by the president of this association, whose duty shall be to assist the federal, state, and municipal authorities in the extermination of plague-carrying animals;

*Be It Further Resolved,* that the federal agricultural departments, the state agricultural departments, the county farm bureaus, and agricultural, horticultural, livestock, poultry or other farm organizations be requested to put forth an earnest and continued effort to exterminate animals known to be capable of transmitting plague.

4. **Narcotic Drug Resolution.**

WHEREAS, there seems to be, among medical men and health administrators, a wide variance of opinion as to the nature of narcotic drug addiction, and

WHEREAS, narcotic drug addiction constitutes a public health problem of great importance, and

WHEREAS, under these conditions it is well nigh impossible for health officials to formulate a uniform working program for the alleviation or control of this condition; therefore,

*Be It Resolved, First,* that Dr. W. S. Rankin of this association be empowered to appoint a committee for the purpose of making a thorough investigation of the subject of narcotic drug addiction, and that this committee report their findings to the association at its next annual meeting.

5. **Resolution Concerning the Fess-Capper Bill.**

RESOLVED, that the American Public Health Association endorses the object of the Fess-Capper Bill for Physical Education, which proposes federal financial and technical assistance to the states in the establishment of physical education; and

*Resolved Further,* that in so far as the administration of the proposed bill relates to sanitation of school buildings and school grounds and the detection and treatment of physical and mental defects, this particular responsibility should be discharged by the United States Public Health Service; and

*Resolved Further,* that Section 13 of the bill should be amended so as to leave to the legislative bodies of the state the designation of state machinery through which the provisions of the bill shall be carried into effect within the state and that subsequent sections of said bill be amended to accord with the change in Section 13; and

*Resolved Further,* that this resolution be laid before the Committee on Education and Labor of the Senate and Committee on Labor in the House by a special committee representing this association.

6. **Resolution on Venereal Disease Program.**

RESOLVED, that it is the sense of this association that the war-time program of official and non-official health agencies for combating the venereal diseases should be

carried on as a civilian program with such modifications as civilian administration and community conditions may require.

7. **Resolution on a Section of Public Health Nursing.**

WHEREAS, the services of the Public Health Nurse constitute essential professional activities of all modern official and non-official health agencies, and

WHEREAS, their contribution to the methods and principles of public health development and protection have been important and valuable,

*Be It Resolved,* that this meeting recommend to the Board of Directors that a section on Public Health Nursing be provided for and established in the American Public Health Association.

8. **Resolution on the Amendments to the California State Constitution.**

The American Public Health Association views with concern the effort being made in California amending the constitution of the state, to nullify the vaccination laws and to forbid animal experimentation. The development of public health and the reduction in mortality in all civilized countries have been so clearly the result of vaccination, inoculation and medical research that any attempt to retard the progress of these preventive measures, must be deprecated by all individuals, laymen and health officials alike, who are interested in eradicating preventable disease and maintaining the highest standards of the public health;

RESOLVED, that the American Public Health Association emphatically disapproves of measures to be voted upon by the people of the state of California on November 2, next, which in any way, limit the freedom of medical research or interfere with the scientific prevention of communicable disease.

9. **Resolution of Thanks.**

RESOLVED, that the gratitude of the association be extended to all who have coöperated in making the San Francisco meetings an occasion ever to be remembered by our members and guests. The association wishes particularly to acknowledge the invaluable services of the League for the Conservation of Public Health and its executive manager, Mr. Celestine J. Sullivan. We also owe a debt of gratitude to the local arrangements committee: Dr. Wm. C. Hassler, Mr. Guy P. Jones, Dr. G. G. Moseley, Dr. W. H. Kellogg, Dr. Joseph H. Catton, Mr. Robert L. Webb, Dr. Morton R. Gibbons, Mrs. Katherine I. Barnett, Mrs. H. C. Eldridge, Miss Eleanor Stockton, Miss A. M. Tridel, Miss Anita Eldridge, Mrs. E. F. Galbraith, the Governor of the state of California, the Mayor of San Francisco, the officials of the state and local health departments, the presidents and coöperating members of the faculties of the University of California and Leland Stanford Junior University, the auditorium committee of the San Francisco Board of Supervisors, the Hotels Palace and Whitcomb, the San Francisco Convention and Tourist League, the newspapers of San Francisco, the State Board of Charities and Correction, and all others who gave so generously of their time and energies that this annual meeting might be successful.

*Resolved Further,* that the Secretary be instructed to communicate the deep appreciation of the association to all of the foregoing.

10. **Resolution Concerning Representation of American Public Health Association at Congress on International Classification of Causes of Death, to Be Held in Paris in October, 1920.**

Adopted by Vital Statistics, Sept. 15, 1920.

WHEREAS, the section on Vital Statistics approves the report of the committee on the International Congress for the revision of the International Classification of Causes of Death and endorses all of its findings;

*Be It Resolved,* that a similar action be taken by the General Session of the association, and

*Be It Further Resolved,* that the general association appoint a representative or representatives who shall attend the International Congress in Paris this October, and who shall present to the Congress the findings of the above mentioned committee as the contribution of the American Public Health Association.

11. **Resolution Concerning Work of U. S. Public Health Service in Collecting Industrial Morbidity Statistics.**

Adopted by Vital Statistics Section, Sept. 15, 1920.

WHEREAS, the U. S. Public Health Service has accepted the recommendations of the Committee on Industrial Morbidity Statistics of the Vital Statistics Section, and

WHEREAS, the U. S. Public Health Service has put into operation a plan by which sixty-four industrial establishments, with a total of 247,000 employees, are now regularly reporting or are prepared to report regularly, their industrial morbidity experience, and

WHEREAS, this work of the U. S. Public Health Service is seriously curtailed by lack of financial support,

*Be It Resolved,* that the American Public Health Association approves the efforts of the U. S. Public Health Service along this line, and

*Be It Resolved,* that there be urged upon Congress the desirability of making ample provision for the adequate support and continuance of this work.

12. **Resolution concerning the desirability of all interested agencies, public and private, being represented at the annual meet- of the American Public Health Association.**

Adopted by the Vital Statistics Section, Sept. 15, 1920.

WHEREAS, the meetings of the American Public Health Association are for the purpose of improving and harmonizing the various agencies engaged in the protection of human life and health, and

WHEREAS, participation in the deliberations, by representatives of all governmental organizations dealing with these problems is necessary in order to attain the best results, and

WHEREAS, these meetings promote governmental efficiency, rather than give private advantage to participants,

*Be It Resolved,* That it is the opinion of this association that in attending the meetings of this association, the members are performing a public duty, and

*Be It Resolved,* That every national and state department, bureau or board, dealing with the subjects discussed should be officially represented at every annual session of the American Public Health Association, and

*Be It Resolved,* That the Secretary of the Association be instructed to send a copy of these resolutions to the President of the United States and the governor of each state, to the governor general of the Dominion of Canada, and each province of the Dominion, to the president of Mexico and to the president of Cuba, and also to the official head of each national or state office dealing with the protection of human life and health and allied subjects.

13. **Resolution concerning the desirability of the Congress of the United States enacting a general law requiring registration of births and deaths.**

*Resolved,* That it is desirable that the Congress of the United States enact a general law requiring the registration of every birth and death occurring within the United States and its territories and dependencies; but such enactment should not serve to displace efficient registration under state laws.

*Secondly,* That this law should make state and local registrars special agents of the Bureau of Census, and entitle them to the use of the postal frank in the discharge of all their official business.

*Thirdly,* Such enactment should provide that all original certificates of birth or death should be left on file in the office of the state in which such births or deaths occurred; and that in all states having laws for birth and death registration in harmony with the provisions of the model bill, the collection of birth and death certificates should be entrusted to state officers; but in territories and states not operating under laws in compliance with the provisions of the model bill the Bureau of the Census should be empowered to establish such registration, and organize the necessary field force therefor, but that the original certificates should be preserved in the state or territorial office, to be turned over to the state whenever it shall be prepared to enforce efficient registration.

*Fourthly,* The federal act should provide for the making of transcripts in the state offices, at federal expense, for transmission to the Bureau of Census within a reasonable time after the certificates have been received.

14. **Resolution recommending bureaus of publicity for state and city health departments.**

*Resolved,* That the American Public Health Association advises the establish-

ment of a bureau of publicity and education as an integral part of every state and important city board of health in order to place and keep fundamental health facts before the people.

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## PROCEEDINGS—GENERAL SESSIONS

GENERAL SESSIONS, SEPT. 13, 1920, 7:45 P. M.

The first full session of the forty-ninth annual meeting of the American Public Health Association was called to order by David P. Barrows, Ph. D., LL. D., President of the University of California, chairman of the General Committee in charge of the meeting, who in a few well chosen words welcomed the gathering in the name of the committee and of the university. After reading a telegram of regrets from Governor Stephens, who was absent from the state, President Barrows introduced Dr. R. L. Wilbur, President of Leland Stanford, Jr. University, who referred to the public health situation in California, and welcomed the visitors in the name of California as well as that of his university. The welcome was extended so as to include the city of San Francisco by Mr. Rainey, who spoke for the Mayor in his unavoidable absence. Dr. Barrows then gave over the conducting of the meeting to Dr. W. S. Rankin, President of the Association, who delivered his presidential address. (See *Journal* for November, 1920, pages 825-834.)

After some matters of business Dr. Rankin introduced Dr. Haven Emerson and Dr. Charles J. Hatfield, who presented papers on the relative functions of official and of non-official health agencies, Dr. Emerson taking the point of view of the official agency. These papers are to be found in this issue of the *Journal*, pages 941 and 948 respectively. Following the papers came the general discussion of the subject by a number of speakers. The Discussion may be found in this issue of the JOURNAL, pages 963 *et seq.*, following the Symposium on the duties of official and non-official health agencies.

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GENERAL SESSIONS, SEPTEMBER 15, 1920

The first paper of the session was that of Louis I. Dublin, Ph. D. of New York City entitled, "The Serious Situation of Porto Rico," with discussion by Dr. Donald B. Armstrong, followed by the paper entitled, "Publicity and Public Health," by Celestine J. Sullivan, which was discussed by Dr. C. J. Hastings of Toronto, Ont., and Wr. William Simpson of San José. Then followed the symposium on plague in which Dr. W. H. Kellogg, Dr. C. L. Williams and Dr. Friench Simpson had each a paper. For these papers see the November *Journal*, pp. 835-863. In the discussion Surgeon General H. W. Cumming, Dr. Alphonso Pruneda of Mexico City, Dr. Mark F. Boyd of Galveston, Tex., and Dr. E. H. Bullock of Kansas City took part. There was incidentally some discussion concerning resolutions on Porto Rico and rat extermination, which were among those accepted at the third of the General Sessions.

Dr. Robert T. Legge read the report of the committee on the Standardization of Public Health Degrees, action on which was taken at the third General Session. The business was closed for the session by the election of five directors with terms to expire in 1923, Dr. S. J. Crumbine, Dr. J. A. Ferrell, Dr. Charles J. Hatfield, Dr. M. M. Seymour and Dr. R. L. Wilbur.

GENERAL SESSIONS, SEPTEMBER 16, 1920

The first business of the third of the General Sessions of the association was with reference to the committee on Standardization of Public Health Degrees, which had previously reported. It was voted to refer the report to the same committee for action during the course of the year. The report of the committee on Resolutions was presented and accepted, the resolutions being adopted one at a time by the meeting. They are given in this issue of the JOURNAL, page 987.

The paper by Dr. George Hoyt Whipple on "The Value of Animal Experimentation to Mankind" was then presented, followed by the report by Dr. Charles J. Hastings of the Committee on Smallpox.

The list of officers to serve during the ensuing year was announced and President-elect Ravenel made a brief address of appreciation of the honor. Two papers served to close the session and the meeting as well, one by President Ray Lyman Wilbur of Leland Stanford University, on "Vaccination and the Student," and the other an outline of the legislation dealing with vacci-

nation by Chester Rowell, editor of the Fresno *Republican*, "a staunch supporter of preventive medicine," according to the words of Chairman W. S. Hassler, M. D., in introducing him. These papers, together with the report of Dr. Hastings, will be presented together in a later issue of the JOURNAL, in a Symposium on Smallpox.

# LIST OF NEW MEMBERS

Proposed for Election to the

## A. P. H. A.

October 10 to November 8, 1920, inclusive.

Names of Sponsors are set in **Bold Face Type.**
Names of New Members are in Light Face Type.

### CALIFORNIA

**S. C. Long, M. D., Bakersfield.**
Peter J. Cuneo, M. D., Health Officer, East Bakersfield.
**W. M. Dickie, M. D., Los Angeles.**
A. M. Besemer, Eureka.
Anna H. DeVinne, San Francisco.
Alice L. Goetz, M. D., Santa Barbara.
F. L. Rogers, Long Beach.
John C. Yates, M. D., San Diego.
**Mrs. E. S. Edson, R. N., Sacramento.**
J. C. Havely, Sacramento.
**George B. Worthington, M. D., San Diego.**
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Michael M. Schultz, M. D., Dept. of Health, N. Y. C., Hollis.
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**A. W. Hedrich, Boston, Mass.**
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**V. M. Ehlers, Austin.**
Clyde C. Hays, City Sanitarian, Waco.

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**H. J. Sears, M. D., Salt Lake City.**
W. M. Stookey, M. D., Salt Lake City.

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**George P. Barth, M. D., Milwaukee.**
William F. Reich, M. D., Medical Inspector of Schools, Health Dept., Milwaukee.

**PORTO RICO**

**H. W. Green, Central Aguirre.**
Ettemu Totti, Sanitary Engineer, Dept. of Health, San Juan.

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Sociedade de Medicina Cirurgia, Sao Paulo, Brazil, South America.

## MEMBERS OF THE A. P. H. A. ELECTED TO THE VARIOUS SECTIONS AT THE ANNUAL MEETING IN SAN FRANCISCO, CAL., SEPTEMBER 13-17, 1920.

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Chicago Tuberculin Institute.....Chicago, Ill.
Teofilo Corpons, M. D.....Cabanatuan, P. I.
J. H. Dunkley, M. D.....Roanoke, Va.
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Attendance and registration at the annual meeting of the Section is the only requirement for membership in the Section. Forty-five Association members so registered at San Francisco.

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# EMPLOYMENT BUREAU

## HELP WANTED

**Help-wanted announcements will be carried free in this column until further notice. Copy goes to the printer on the 10th of each month for publication on the 20th. Mail to Boston office as early as possible.**

**In answering keyed advertisements, please mail replies separately to editorial office in Boston, Mass. In replying give age, professional training, salary requirements, previous positions held and three or more references.**

Wanted: Assistant chemist for state board of health laboratory in New England. Analysis of water and food. Address, stating age, references and experience, 413, H. D. C., care of this Journal, Boston address.

The Illinois State Department of Public Health is in need of an assistant analyst in the Water and Sewage Laboratory at Springfield. The services of a man are preferred. The position is under Civil Service, temporary appointment at first, followed later by examination which recent graduates or other persons properly qualified should be able to pass. According to State law, preference is given to persons who have served in military or naval service. The present salary available is $1,500 per year, but good opportunity for advancement if additional appropriations are granted by legislature convening within a few months is offered. For additional information, address Dr. C. St. Clair Drake, Director, State Health Department, Springfield, Ill.

Wanted: Whole-time health officer to head health department for city and county; population 30,000; four nurses and stenographer. State experience, reference and minimum salary. Address 416, M. E. C., care of this Journal, Boston address.

Wanted: Bacteriologist as second assistant, state health laboratory in Middle West. Address 415, M. O., care of this Journal, Boston address.

## POSITIONS WANTED

**Position-wanted announcements will henceforth be carried in this column. The charge is $2 per insertion. Copy should be received at this office by the 10th of the month.**

Graduate of Massachusetts Institute of Technology desires location in medical laboratory or health department of industrial concern. At present has charge of bacteriological, chemical and X-ray laboratories of medical department of a corporation. References from past and present employers. Address 137, B. J. C., care of this Journal, Boston address.

A graduate in physical education, medicine and public health, with a valuable experience in each line of work, would like a position in educational work with college, public schools or industrial organization. Address 136, R. F. J., care of this Journal, Boston address.

Young woman graduate of a teachers' college, B.S. degree, with five years' experience in public health laboratory work (two as director of a city laboratory), would like a position in public health education, or an executive position in a health department. Has had some experience in public speaking. Present salary $2,800. Further details on request. Address 131, S. P. M., care of this Journal, Boston address.

Wanted: Position as bacteriologist by woman with training in bacteriology and serology. Especially interested in research work in bacteriology of foods. Experience in public health work. M.A. degree. References. Address 139, B. M., care of this Journal, Boston address.

State health officer with four years' experience desires to make a change. Experience and references furnished. Address 139, H. C. E., care of this Journal, Boston address.

# PUBLIC HEALTH NOTES

Abstracts by D. Greenberg, M. P. Horwood, James A. Tobey and Homer N. Calver.

**First Aid in Infant Feeding.**—The two most important safeguards in the prevention of infant deaths, according to Dr. Jacob Sobel, are proper prenatal instruction and supervision of the mother, and the feeding of the infant with breast milk. According to the author Dr. Jacobi believed that 100% of the women, including even the flower and fashion of the land, could be made to nurse their infants. He maintained that by breast feeding it would be possible to save 100,000 babies that die or become invalids through no other cause than unnatural feeding. That the infant needs the best care and attention which the mother can give, and requires breast milk in order to battle for its life is indicated by the following comparisons. The most dangerous occupation in the world is that of being a baby. It has less chance to live a week than a man of ninety, and to live a year, than a man of eighty. It is less likely to survive its first year than an aviator who makes ascensions daily has of being alive at the end of the first year. Being an infant is six times more dangerous than life in the trenches. The need for breast feeding is therefore quite obvious, as it is the best way to aid the infant through this dangerous period. It must be remembered, however, that although good breast milk is better than good artificial feeding, that good artificial feeding is better than poor breast milk.—*N. Y. Med. Jour.*, September 25, 1920. (*M. P. H.*)

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**Use of Fresh Vaccines in Whooping Cough.**—The author reports the results of a series of cases of whooping cough treated with freshly prepared vaccines at various periods of the disease. In five no results were obtained, and of these three were early in the disease and the other two very late. Of the eleven remaining cases, in nine a very material improvement took place and in four of these a practical cure was obtained. Such results have convinced the author that these vaccines should have an extended use, particularly in institutions where controls might be used to demonstrate whether we might not have in such vaccines a valuable method for reducing the large mortality from whooping cough. R. G. Freeman, *Archives of Pediatrics*, July, 1920, 410. (*D. G.*)

✚

**Health Instruction in the Schools of the U. S.**—Fifty-eight per cent of the teachers of the United States are trying to teach their pupils to care for their health, according to statistics recently prepared by the Bureau of Education. Thirty-two per cent of the schools use textbooks or some sort of classroom instruction in health matters; 15% use the Modern Health Crusade of the Anti-Tuberculosis Association, and 19% weigh and measure the children according to the plans suggested by the Bureau of Education and the Child Health Organization of America. In other words, 15.6% of the 760,563 children in the schools reporting were weighed and measured at some time or times during the year. One and nine-tenths per cent of these same schools have medical inspection, and only 29 schools, less than 1% have nutritional clinics and feeding.

Utah stands at the head of the list of states in this respect with 72% of her schools using scales; 81% of the children are weighed. Iowa is second with 54% of the schools weighing 51% of the children. Minneosta is third with 31% of her schools weighing 46% of the children. Other states in their order are Indiana, California, Pennsylvania, Illinois and New York.

At the foot of the list is Oklahoma, with only 4% of the schools weighing 0.4% of the children, and Texas with 5% of the schools weighing 1.2% of the children. Ohio is third from the foot with 2%, while Nebraska, West Virginia, Virginia, Mississippi, Michigan and Alabama are not much better.—(*School Life*, U. S. Bureau of Education, September 1, 1920.) (*J. A. T.*)

✚

**World Sanitation: A Twentieth Century Possibility.**—The first issue of the International Journal of Public Health, published by the League of Red Cross Societies, made its appearance in July, 1920. The journal abounds in excellent articles by such well

known scientific men as Dr. A. Calmette, Dr. Richard P. Strong and Prof. G. C. Whipple. Professor Whipple, in his article on World Sanitation, shows the need of public health protection on an international scale. The world is too intimately knit together today, by rapid means of transportation, to enable any part of the world to be indifferent to the plagues which afflict other countries. The need for modern systems of water supply and sewerage is urgent in some parts of the world to diminish typhoid fever and cholera. Buildings must be protected from rats to aid in the campaign against plague. Factories and mines must be adequately lighted and ventilated. Food supplies must be protected and properly stored. Adequate housing facilities must be provided. Cities must be properly planned. Malaria and yellow fever centers must be abolished, and the numerous other activities of a complete public health program must be included. The proposed scope of work to be attempted by the League of Red Cross Societies is indicated by the organization of the General Medical Department of the League. This department includes divisions on vital statistics, communicable diseases, tuberculosis, malaria, sanitation, industrial hygiene, child welfare, nursing, social hygiene and medical information. It will be necessary to determine at first hand the exact sanitary conditions in many countries before intelligent remedial measures can be taken. In order to do this, detailed sanitary surveys of these countries will be necessary. Professor Whipple gives the most complete and comprehensive outline for a sanitary survey that has yet been published.—*International Journal of Public Health*, July, 1920. (*M. P. H.*)

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**Factors in a Low Venereal Record.**—On the basis of 14,444 replies from a questionnaire sent to 37 of the largest camps in the United States, the author analyzes the factors making for a low venereal disease record in the army of the United States. This inquiry supports the belief that chastity is largely influenced by public opinion and, in the Army by the official attitude in regard to it. Section ii of General Order 135, War Department, December 23, 1919, expresses a department attitude as definitely opposed to illicit intercourse, to all recognition, encouragement or regulation of prostitution; it directs all officers to support the sound policy outlined, and it calls for such frequent and explicit reports as to keep all surgeons and commanders informed at all times as to conditions obtaining in their organizations. Current weekly reports of venereal disease incidence indicate that it is having an excellent effect.

Unchaste men are no more continent in the United States than they were in France. In fact they seem to be less so, as the reported contact rate is much higher. Presumably this is due to lack of the barrier of a different language and to the constant presence of women, *i. e.*, the absence of devastated or army areas, as in France, in which women did not live. It is possible that the distracting interests, campaign, seeing strange country, visiting points of interest, very active welfare work after the armistice, were more potent in France.—P. M. Ashburn, *Military Surgeon*, August, 1920. (*D. G.*)

✣

**Ministry of Motherhood.**—New South Wales has created the first Ministry of Motherhood. The new cabinet officer is charged with the duty of making provision for mothers and children forced to enter industry for a livelihood. The plans of the ministry have not been worked out but the administration of an endowment fund for mothers will come within its province. The fund, obtained from a graduated income tax, is expected to yield $25,000,000 annually.—*Ch. Bur. News Summary*, August 30, 1920. (*H. N. C.*)

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**Remote Results from Delayed Antitoxin Administration.**—There are several important adverse consequences of delay in giving diphtheria antitoxin which may be summarized as follows: (1) Increased case mortality. (2) Increased number of cases requiring tracheotomy. (3) Causation of paralytic and other complications resulting in unnecessary constitutional damage. (4) The production of carriers. (5) Increased number of cases requiring a prolonged course of hospital treatment, leading to difficulties of administration, due to both overcrowding in hospital and inability to remove cases to hospital owing to lack of accommodation.—G. H. Dart, *Medical Officer*, July 10, 1920. (*D. G.*)

**New Grades for Army Medical Corps.**—Those who have served in the Medical Department of the Army will be interested in the new system of grades which has been established for the enlisted men of the Medical Corps. By a system of specialists' ratings which carry an extra monthly pay of $3 to $25 there have been provided technicians of various kinds such as clinical, laboratory, dispensary, X-ray and sanitary. These are all men of the grade of private or privates first class. In addition, the former designation of the first three grades of sergeants has been changed. Master hospital sergeants become master sergeants, hospital sergeants are now either technical sergeants or sergeants first class and the former sergeant first class is now a staff sergeant.—*Med. Mil. Rev.*, September 15, 1920. (*H. N. C.*)

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**Typhoid Carriers.**—The Massachusetts State Department of Health now has a list of 51 known typhoid bacillus carriers, who were apparently responsible for 493 cases of typhoid fever. Of these carriers, 21 transmitted to infection to others through milk; and 18 through their occupation as food handlers. It is believed that the remaining 12 disseminated the infection either through food or by direct contact. The intermittent nature of the carrier danger was manifested in the case of four carriers. One carrier did not cause any known cases in 1909, 1910 or 1914 to 1918 inclusive. Yet, in 1919, 29 cases of typhoid fever occurred on his milk route, and for the first time typhoid bacilli were isolated from his feces. *Weekly Bulletin*, N. Y. C. Health Department, September 25, 1920. (*M. P. H.*)

✚

**Virulence of Diphtheria from Patients and Carriers.**—Tests were made during a period of two years with 250 strains of the diphtheria bacillus. Ninety per cent of the strains that were isolated from cases of clinical diphtheria from the day of onset to and including one year after onset, were virulent for guinea pigs. Eighty per cent of the strains isolated from a smaller series of healthy contact carriers who acquired the bacilli during epidemics were virulent, while only 10% of the strains isolated from non-contact carriers were virulent. The non-contact carriers of this series were persons in state institutions or schools where there were no cases of diphtheria, who, nevertheless carried diphtheria bacilli in their secretions. Ninety per cent of the cultures that were obtained from convalescent patients during the first three months after the onset of the disease and from contact carriers were virulent. When the results obtained with cultures from convalescent carriers in whom the duration of infection is less than three months are examined, it is found that of 147 strains of *B. diphtheriae*, 136 or 92.5% are virulent.—A. B. Wadsworth, *Jour. Amer. Med. As.*, June 12, 1920. (*D. G.*)

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**Medical Council of Red Cross League.**—The first meeting of the Medical Council of the League of Red Cross Societies was held in Geneva, July 5 to 8. Dr. Simon Flexner presided. In general the Council considered a plan of coöperation between the League and other health organizations. It was decided that the League should first centralize medical information and distribute it. This will be accomplished by various pamphlets and periodicals, including the new International Journal of Public Health. The immediate creation of a commission for infant welfare was approved. This will be sent to work in some country that will engage gradually to take over the work. Experimental tuberculosis demonstrations were recommended for certain places in Europe and an anti-malarial campaign for Spain was approved. There were particularly recommended schools for public health nurses and the adoption of a common international system of vital statistics. Regional venereal disease conferences were encouraged. The first of these will be held in Washington, December 6-11.—*Rev. Inst. de la Croix Rouge*, August, 1920. (*H. N. C.*)

✚

**Righteous Indignation.**—The following story comes from the city of New York education department:

Micky came home from school sniffling. "You've been licked?" questioned his mother. "I ain't ," said Micky. "There was a doctor at school this mornin', and he said I had ad'noids." "Phwat's thim?" asked the mother. "They're things in your head as has to be took out," answered Micky. "It's a dom lie!" exploded his mother. "I've fine-combed y're head ivry Saturday night and niver a one did I find."

**Soaps in Relation to Hand Washing.**—Sterile hands are not obtained in the ordinary process of hand washing. More bacteria were found to be removed by the ordinary toilet soaps than by the special soaps. In other words the cleansing properties of a soap are more important than its "germicidal" or "antiseptic" constituents. The soap solutions obtained in hand washing are of no practical germicidal or antiseptic value. In the whole process of hand washing done in the usual manner, the special so-called "germicidal" or "antiseptic" soaps exhibit none of these properties. Therefore these terms are not proper to use in connection with soaps. Finally, since the hands may serve as a medium for the conveyance of bacteria in infectious diseases, it is important to remove these bacteria, and this may be done by the ordinary toilet soaps as effectively, if not more so, as by the special brands of so-called "germicidal" and "antiseptic" soaps.—J. F. Norton, *Jour. A. M. A.*, July 31, 1920. (*D. G.*)

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**Minimum Standards of Organization for Municipal Health Departments.**—The work of any health department is to prevent disease, promote good health, and increase the years of life. The diseases which afflict man, and which interfere with the efforts of the health officer to prolong life, may be divided into six groups. (1) Those due to animal and vegetable parasites. (2) Those due to the conditions in the environment. (3) Those due to occupational influences. (4) Those due to faulty diet. (5) Those due to faulty habits. (6) Those due to heredity. One or more of these causes of disease may act during the life of an individual. These may occur during the period previous to conception; during the intrauterine period; during the period of birth; during the preschool period; during the school period; during the productive and reproductive period; and finally during the period of old age.

The work of a health department may be divided under eight heads, namely, executive and administrative, vital statistics, communicable diseases, child hygiene, food inspection, sanitation, industrial hygiene, and education. The amount of money necessary to maintain a minimum health organization should vary from 50 cents to $1 per capita per annum. A city of 10,000 should have an annual appropriation for health work of 75 cents per capita. The following is an outline of the organization and expenses of a minimum health organization for a city of 10,000:

| | |
|---|---|
| 1 Health Officer | $3,000 |
| 1 Public Health Nurse | 1,200 |
| 1 Clerk | 1,000 |
| Total salaries | $5,200 |
| Maintenance | 2,300 |
| Total | $7,500 |

For a city of 25,000 the proposed minimum organization and expenses are as follows:

| | |
|---|---|
| 1 Health Officer | $3,500 |
| 1 Epidemiologist | 2,500 |
| 3 Public Health Nurses | 3,600 |
| 1 Milk Inspector | 1,500 |
| 1 Sanitary Inspector | 1,200 |
| 1 Statistical Clerk | 1,200 |
| 1 Stenographer | 1,000 |
| Total salaries | $14,500 |
| Maintenance | 4,250 |
| Total | $18,750 |

In both cases all the employees are on a full-time basis.—*Jour. A. M. A.*, September 18, 1920. (*M. P. H.*)

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**Defects of the Heart.**—In discussing the heavier incidence of defects of the heart, functional and organic, upon older girls as compared with boys, Dr. W. H. Hamer in a report to the London County Council Education Committee, says: "This difference, repeated year after year, calls for insistent warning that the conditions under which the girls are brought up, lack something that is enjoyed by the boys. It is the more striking when it is considered that difference in the incidence of heart defect between boys and girls does not exist in the eight-year old group, and is therefore developed during four years of school life. There can be no doubt that the effect is due to the denial of opportunities to the girls which are open for boys for participating in outdoor games and sports." Dr. Hamer closes with the quotation: "She grows as a flower does—she will wither without sun; she will decay in her sheath, as a narcissus will, if you do not give her air enough."—*Medical Officer*, June 19, 1920, 246. (*D. G.*)

**Orange Juice Considered in a New Light.**—It has been shown by Osborne and Mendel that orange juice possess something more than an attractive flavor and antiscorbutic virtues in the feeding of infants. They have demonstrated the presence of water-soluble *B*, the antineuritic vitamine, in both the juice and the inner peel of the orange. Evidently when orange juice or tomato juice (which is also rich in vitamine content) is added to the diet of an infant something more than an antiscorbutic is furnished. It has been noted that in every case when the antiscorbutic dose of orange juice is 15 cc. was increased to 45 cc. a day to infants whose weight had remained stationary for a number of days there was a marked stimulation of growth. A mere increase in food intake (calories) of itself had no such influence on the rate of gain. In feeding orange juice provided the quantity is not too small one is administering at least two highly beneficial adjuvants to the diet. This fact and the growing practice of enlarging the diet of milk fed infants by the use of fruit juices etc. is significant further in view of the recent demonstration by Osborne and Mendel that cow's milk from a comparative standpoint is not rich in water-soluble vitamin. These authors have pointed out how recent studies of the antiscorbutic value of cow's milk have indicated that on this score it must be classed as less valuable than many of the raw fruits and vegetables. Whereas quantities of the latter—less than 10 grams daily—will prevent scurvy in guinea pigs on a diet otherwise devoid of antiscorbutic material, from 100 to 150 cc. daily of raw cow's milk are required for this species, while monkeys require larger quantities. Similarly relatively large quantities of milk are required to produce the increased intake of food and improved rate of growth which are readily secured by very small quantities of many green vegetables.—Editorial *Jour. A. M. A.* June 19, 1920, *(D. G.)*

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**Syphilis As a Factor in Fœtal Mortality.**—The author reports a critical study of 302 fœtal deaths occurring in 4,000 consecutive deliveries at the Johns Hopkins Hospital. Of the 4,000 cases there were 1,439 white and 2,161 black women, in whom a positive Wasserman reaction was present in 2.5 and 16.3 percent respectively. Upon analyzing the causes of death he obtained the following figures:

| | Cases | Pct. |
|---|---|---|
| Syphilis | 104 | 34.44 |
| Dystocia | 46 | 15.20 |
| Toxemia | 35 | 11.55 |
| Prematurity | 32 | 10.59 |
| Placenta previa and premature separation | 16 | 5.28 |
| Deformity | 11 | 3.64 |
| Eleven other causes | 32 | 10.69 |
| Cause unknown | 26 | 8.61 |

As large as these figures seem, they do not entirely represent the ravages of syphilis since a more careful search might have revealed the presence of spirochetes in the tissues of a considerable fraction of the autopsies in which the cause of death was attributed to prematurity, as well as in a certain number included in the unknown group. Moreover, these figures do not include the cases of congenital syphilis which appeared in babies which were discharged alive, or in whom the disease developed later. The author notes that this unusually large incidence of syphilis can only apply to hospital services with a large black clientelle, and will not be found in private practice or in hospitals in communities in which the majority of inhabitants are white, or in which the colored people are more intelligent than in the vicinity of Baltimore. In this series of cases there were 99 white and 203 black infant deaths and in them syphilis was the etiological factor in 12.12 and 45.23 percent, respectively.

Considering the question of the reduction of fœtal mortality the author notes how difficult it is with our present state of knowledge to combat any of the causes except syphilis. At the present time a program directed against syphilis appears to offer the most promising field for immediate results. In such a program all obstetrical patients should be encouraged to register not later than the third or fourth month of pregnancy, and a routine Wasserman should be made at the first visit and in case the result is positive, intensive treatment should be started immediately. In the case of the ignorant patient, mere advice to return at stated dates for treatment will not suffice, and it will be necessary for the social worker to follow her into the home and insist upon the necessity of following all directions implicitly.—J. W. Williams, *Bull. of Johns Hopkins Hosp.*, May, 1920, 141. *(D. G.)*

**Association of Laboratories.**—The New York Association of Public Health Laboratories, recently organized, is an evidence of the realization by the laboratories themselves of the needs of coördination in the interests of uniform methods and higher standards.

The purposes of the Association, as outlined in the constitution, are "to increase the efficiency of the laboratories engaged in public health work in the State; to unify the interests of their workers by stimulating among them the spirit of common understanding and coöperation; and to encourage the constant effort toward the improvement and standardization of technical methods to the end of securing increasingly high standards of scientific achievement in the work performed by the several laboratories."

Laboratories approved by the State Commissioner of Health are alone represented in the Association. To receive approval by the Commissioner of Health, they must maintain at least the minimum standard of efficiency considered essential before their regular reports can be accepted by the Health Department.

The membership of the Association, which includes both active and associate members, is made up of representatives of laboratories engaged in public health work, qualified workers in these laboratories, and other persons actively interested in the public health work in the State. Thirty-three laboratories in the State are represented in the Association. Warren B. Stone, M. D., Director of the City and County Laboratory, Schenectady, was elected President of the Association; William A. Bing, M. D., Director Ontario County Laboratory, Canandaigua, Vice-President; and Mary B. Kirkbride, Bacteriologist, State Department of Health, Albany, Secretary-Treasurer.

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**National Plan for Recruiting Student Nurses.**—There is in every community an acute shortage of competent nurses.

In order to help correct this condition, the three National Nursing Associations—American Nurses' Association, the National League of Nurse Education and the National Organization of Public Health Nursing—together with the American Red Cross, have arranged a national movement which will continue indefinitely for the purpose of recruiting students to fill the Hospital Training Schools, and distributing information relative to nursing education and the opportunities open to graduates of the profession.

It is suggested that if in each community a committee were formed, a recruiting committee, results might be obtained. Such a committee should be formed by representatives of groups like Red Cross chapters, governing and auxiliary boards of hospitals, hospital and training school superintendents, local medical and nursing organizations, physicians, board of education, press, chamber of commerce and women's clubs.

These committees could secure information about nurses' schools, demands for nurses, secure speakers, present the plans before training schools, get local publicity, place posters, and arrange public meetings, plays, pageants, etc. They could also bring into coöperation the city officials, and associations of physicians, alumni, farmers and the Church, and prove a clearing house for information concerning nurses and the needs. The American Red Cross offers its services in order that such a plan may be put into operation with the minimum of delay.

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**Diphtheria and Bad Drains.**—Old superstitions regarding the causation of disease have for the most part given way before the scientific demonstration of the true relation between disease and its cause. One of the most popular of these old superstitions, one that perhaps some of the younger generation have not even heard of, is that diphtheria was caused by bad air or sewer gas emanating from broken drains or leaky plumbing. This superstition is still met with more or less frequently among the laity but a public health worker or even a physician who suggested such a relation would, to say the least, not be considered "up-to-date." It is with some astonishment therefore that one reads in the columns of one of the most progressive of all public health journals the following note, *without comment*, "In recent years typhoid fever has been less prevalent in

Workington, but diphtheria has been on the increase. In 1919 there were as many as 110 cases, and Dr. Thompson is justified in referring its persistence to the existence of insanitary conditions. In this connection he urges the need for examining and where found necessary, the relaying of school drains. It is suggestive, he says, that there were very few cases of diphtheria among the children attending the north side school, where the conservancy system prevails."

The note from which this is quoted justly praises the health officer in question for his persistence in attacking year after year and month after month, insanitary conditions in the face of a discouraging lethargy of local authorities. Many health officers might well take heart from such an example of perseverence. It is unfortunate, however, that this tenacity should extend to the retention of outworn theories.—*Medical Officer*, Aug. 7, 1920.

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**Few Prisoners with Tuberculosis in Massachusetts Prisons.**—During the summer the Department of Corrections of the state in coöperation with the Division of Tuberculosis of the Department of Public Health made an examination of the inmates of all the correctional institutions in the state with reference to the prevalence of tuberculosis. There were 1,571 inmates of the fourteen state and county prisons examined by tuberculosis experts from the four state sanatoria. The remarkable showing of the examination is that only seven prisoners were found to have active tuberculosis. These men were referred to the prison hospital for treatment. No one of them was found in the state institutions, all of them being inmates of county prisons. Two of the institutions, the Reformatory for Women and the Bridgewater State Farm were not examined, since they have their own consumptive colonies.

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**Train Wrecks Due to Paresis.**—At the recent meeting in Atlantic City of the American Association of Railroad Chief Surgeons one of their number made the startling assertion: "That four recent wrecks had been traced to engineers suffering from paresis."

**Biologic Products in Public Health Works.**—The importance of biologic products not only to cure disease but to prevent disease is a fact which health officers generally recognize today. The first biologic product to be used in public health work was smallpox vaccine. Its use has saved millions of lives. Prior to the employment of vaccination in Sweden, the deaths from smallpox were about 20 per 1,000,000 population. After vaccination was made compulsory the deaths were less than 20 per 100,000,000 population. The first biologic product used to prevent disease was diphtheria antitoxin. The average reduction of mortality from diphtheria due to the use of diphtheria antitoxin has been not less than 50 percent. Not less than 10,000 units should be given as an initial dose in a case of diphtheria. In a case of laryngeal diphtheria, the dose should be larger and should be repeated, according to the needs of the patient. Where quick results are necessary, antitoxin should be given intravenously. For prophylactic purposes, the dose of antitoxin is 1,000 units. The immunity, however, lasts but three weeks.

No vaccine has yet been prepared against influenza, but a definite vaccine has been prepared against pneumonia, which is apparently efficient. The success of the typhoid vaccine is well known. Its value has been demonstrated during the mobilization on the Mexican border and in the great war. It is customary now to inoculate against typhoid fever, paratyphoid A and paratyphoid B simultaneously as better results are thus obtained. The Schick test is being used more extensively to detect the susceptibles to diphtheria, and a toxin-antitoxin mixture is being used to establish an active immunity against diphtheria. Park has immunized 4,000 susceptibles, including 1,000 infants under one week old, by the use of toxin-antitoxin, during the past three years. Other biologic products in general use are tetanus antitoxin, rabies vaccine, cholera vaccine and plague vaccine. Biologic products in order to be efficient must be manufactured under the best conditions and must be kept in an ice box until ready for use.—John F. Anderson, M. D. *New Jersey Public Health News*, April, 1920. *(M. P. H.)*

**Municipal Health in Albania.**—The medieval city of Elbassan, Albania, which has until recently been one of the most unprogressive communities in the world, has adopted an extensive public health program. The city authorities have enthusiastically taken up health work which has been introduced by the American Red Cross and are energetically seconding the efforts of the American Relief Corps. Already a general dispensary, an infant welfare station, a milk organization, a woman's clinic, and a food inspection unit have been established. It is hoped that a reduction in infant mortality may be accomplished; at present five out of every eight children die at birth or at an early age, according to the medical officer in charge of the newly instituted public health work.—*(J. A. T.)*

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**The Carrier in Food Poisoning.**—An interesting outbreak of paratyphoid fever traced to a carrier is described. The outbreak was confined to one house in which ten persons were living, all of whom were affected. It was ascertained that a stew of steak and liver had been prepared and consumed, the gravy being saved until the following day and warmed up with a Yorkshire pudding. Two days previous the woman who undertook the preparation of the food was taken ill, and the climax of her illness was reached two days later, although she continued to attend to her household duties. In consequence the liver gravy was infected. Subsequent bacteriological study revealed the presence of the paratyphoid bacillus in the blood of those affected.—*Lancet,* August 14, 1920. *(D. G.)*

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**Water Supply of the Republic of Austria.**—Chief Engineer Alexander Swetz in *Zeitschrift für Wasser und Abwasser,* 1920, 7, page 59-61, gives a general description of the water supply conditions in Austrian municipalities, particularly Vienna, as they are affected by the economic distress, the shortage of labor, etc., resulting from the war. At the present time many of the works are inadequate to give proper service.—*(R. S. W.)*

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**Control of Summer Diarrhea.**—Our efforts to control the infantile diarrheas should be directed towards the regulation of the environment of the infant population. This can be accomplished only through education of those who are concerned with the care and management of infants. The mother, the nurse, as well as the other attendants must be brought to realize the possibility of transmission of diarrheal disease through different channels. The control becomes largely a problem of personal hygiene for those who are responsible for the care of the infant. There must be due regard to feeding, cleanliness and clothing of infants and to the exclusion of flies.—D. H. Bergey, *Archives of Pediatrics,* August, 1920, 462. *(D. G.)*

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**Record for Preventive Medicine.**—There were gathered in New York early in June 304 Boy Scouts. These boys, from 101 cities, were on their way to Europe to represent the Boy Scouts of America. In spite of the fact that measles and scarlet fever and chickenpox were introduced into the group not a single secondary case occurred during their whole journey to Europe and back. The secret of this success was in careful and thorough physical inspection carried out daily or twice daily. All boys showing inflammatory condition of the nose or throat were promptly segregated and treated.—*Med.-Mil. Rev.,* September 15, 1920. *(H. N. C.)*

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**An Airplane Ambulance.**—The United States military aviation authorities have just completed a new design for airplane ambulances. One of these machines was recently flown from the Air Service Experiment Station, McCook Field, Dayton, O., to Bolling Field, Washington, D. C. Although previous models of airplane ambulance were in use at flying fields in this country during the war, they were all simple modifications of the Curtis training planes. The new ambulance has a fuselage designed primarily to carry the sick or wounded and provides space for two litter patients, a medical attendant and the pilot. A D. H. 4 type of air plane is used, with certain modifications in design to increase its safety and stability. Several ambulances of this type are now being built for use on the Mexican border.—*Medico-Military Review, U. S. A.,* July 15, 1920. *(J. A. T.)*

**School Medical Inspection In New York City During 1919.**—The work conducted in New York City for the protection of the health of school children is extensive and varied. Not only does it consist of routine medical examinations by physicians and nurses, and of home visits by the nurses, and numerous examinations and much corrective work by the dentists, but also of special studies on particular phases of the work. As a result of a special nutrition survey conducted in 43 schools, the following amounts of malnutrition were discovered:

| | |
|---|---|
| Kindergarten | 40% Malnutrition |
| First year | 43% Malnutrition |
| Second year | 40% Malnutrition |
| Third year | 37% Malnutrition |
| Fourth year | 37% Malnutrition |
| Fifth year | 35% Malnutrition |
| Sixth year | 32% Malnutrition |
| Seventh year | 26% Malnutrition |
| Eighth year | 22% Malnutrition |
| Ninth year | 21% Malnutrition |

The following table gives the summary of regular examinations for physical defects:

| | 1919. | 1918. |
|---|---|---|
| Number of children examined | 248,978 | 247,735 |
| Having defective vision | 7.2% | 9.4% |
| Having defective hearing | 0.5% | 0.4% |
| Having defective nasal breathing | 11.6% | 10.0% |
| Having hypertrophied tonsils | 15.3% | 17.5% |
| Having cardiac disease | 1.5% | 1.2% |
| Having pulmonary disease | 0.3% | 0.2% |
| Having orthopedic defects | 0.9% | 0.7% |
| Having nervous affections | 0.6% | 0.6% |
| Having defective teeth | 62.3% | 65.2% |
| Summary of cases terminated: | | |
| Defects of vision corrected by glasses | 49.1% | 51.5% |
| Defective nasal breathing corrected by surgical means | 20.9% | 22.0% |
| Hypertrophied tonsils corrected by surgical means | 19.0% | 20.3% |
| Orthopedic defects corrected by surgery | 0.8% | 2.5% |

During 1919 there were increases in the number of cases of measles, diphtheria and chickenpox. There was also a large increase in the number of cases of pediculosis. The number of cases of trachoma declined from 2,052 in 1918 to 1,675 in 1919. During 1919, 19,828 individuals were vaccinated against smallpox.

Not only were the children under close supervision of the medical inspectors and the school nurses, but the coöperation of the teachers was enlisted in helping to find cases of communicable disease, and in teaching the children the essentials of healthy living. Dr. Jacob Sobel, *Monthly Bulletin of New York City Department of Health*, September, 1920. (M. P. H.)

## SUMMER PLAYGROUND INSTRUCTION

During the past summer instruction in mothercraft has been given on several playgrounds where little girls ten to fourteen years are taught the principles of caring for their own health and for the babies in the home. This valuable instruction which is carried on under the auspices of the Massachusetts State Federation of Women's Clubs, Mrs. George Minot Baker, President, reaches young girls of the districts where infant mortality is generally highest. This instruction is not confined to playgrounds, of course, for in the regular school year it is presented to classes in public and private schools and before groups of Girl Scouts and Camp Fire Girls. Here is a group of children on one of the playgrounds in Newton, Mass.

## STATE HEALTH NOTES—GENERAL

**National.**—The United States Public Health Service needs hundreds of graduate nurses for its general hospital work, but also and particularly for the care of former soldiers suffering from nervous and mental disorders. So great is its need for the latter class that it is probable that at present enough trained nurses are not available in the country. The Public Health Service accordingly purposes to establish a training school for nursing in neuropsychiatric diseases in its special hospital (No. 9) on Gray's Ferry Road, near Philadelphia, where nurses with general training may take a special course in this class of work. This hospital has a capacity of 240 patients and will afford exceptional opportunities for instruction in the most modern treatment.

An appeal is made to nurses to come forward for this work, for if they do not do so there seems to be no one to take their place. The hospitals now operated by the United States Public Health Service are already 150 nurses short, and the service faces the necessity of opening several new ones with an inadequate force. Applications should be made to the Surgeon General, United States Public Health Service, Washington, D. C.

The new Government hospital, where the United States Public Health Service will provide special care and treatment for shell-shocked soldiers has been opened and the transfer effected of over 100 patients from the temporary hospital at Cape May, N. J. The new institution is in charge of Surgeon E. H. Mullan, an experienced regular officer of the Service, who has been the commanding officer at Cape May.

According to information furnished by the Children's Bureau, Washington, D. C., most of the work in which children are employed is temporary or seasonal. In the first month after starting to work 10% of the boys and 8% of the girls were out of jobs for at least one week. The proportion of unemployment became less as the children became used to industry. Throughout their work histories the boys showed a greater tendency to unemployment than the girls.

The Pullman Car Service is giving the American Red Cross First Aid training to the entire force of colored maids employed on the transcontinental trains. Several of the women have already finished the course and now carry as part of their equipment the regulations first aid kit. The Pullman Company has arranged with the New York County Chapter of the Red Cross to give the course of training in First Aid and Home Hygiene to some hundreds of maids reporting to its New York terminal.

More than 15,000 American communities were touched by the activities of the American Red Cross during the year ending June 30, 1920, according to the annual report of the organization covering that period.

During the year a Red Cross Department of Health Service has been organized; its Nursing Service has been extended to meet a growing demand for public health nursing until over 36,000 nurses are on its rolls; its First Aid to Injured courses have been widely taught, 6,000 persons having been awarded First Aid certificates during the year, and the A. R. C. has been the chief factor in the formation of the League of Red Cross Societies, with headquarters in Geneva.

The Department of Health service was established December 1, 1919. On June 30, 1920, there were in active operation 128 health centers, from which radiate innumerable activities designed to improve the health of the community, while 435 Red Cross Chapters were actively engaged in disease-prevention work.

It has maintained many different departments, a Bureau of First Aid to the Injured, a Water First Aid Service, a Bureau of Medical Social Service and a Department of Nursing.

Of the 604 nurses attached to the various A. R. C. commissions in Europe when the armistice was signed, all but 116 had returned to the United States by June 30, 1920. Of these 66 were in Poland, 46 in the Balkans, 2 in France and two in Bohemia. Six scholarships to prepare nurses for foreign service have been established at King's College. Enrollment in the Red Cross nursing service increased during the year from 35,426 to 36,705. On June 30 there were in active service 504 in the Army,

321 in the Navy and 943 in the Public Health corps.

In order to increase the number of qualified public health nurses, for which there is urgent demand, 288 scholarships have been established and 67 loans have been made from National Fund to public health nursing. In addition approximately 250 scholarships have been awarded by the various chapters.

Development in class instruction in Home Hygiene and Care of the Sick has increased three-fold during the fiscal year, the number having increased from 34,033 to 93,093. During June, 1920, 2,090 nurse instructors were conducting classes in this branch of work.

One of the important results of the work done by the Red Cross Health and Nursing Departments has been that 35 states have practically adopted a uniform method of working in connection with the Red Cross whereby a bureau of public health nursing has been instituted under the direction of the state public health officer.

The Red Cross medical report for July, 1920, showed 96 physicians, 9 dentists, 10 pharmacists and one laboratory man, making a total of 116 medical personnel in Europe. This number, however, has been cut rapidly by the expiration of contracts so that there are now only about 50 medical men still in Red Cross service in Europe.

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**Connecticut.**—An Institute for Industrial Nurses, the first of its kind, was held this fall at the New Haven School for Public Health Nursing. Fifty-four registered public health nurses from eight states attended. The varied industries represented and the discussions of the nurses brought out very clearly the fact that, while no fixed rules can be worked out to fit all places, it is possible to state definitely the fundamental principles of industrial nursing.

The program lasted ten days and included lectures and round tables on public health nursing, industrial nursing, industrial hygiene, industrial diseases, records, ethics of industrial nursing and medicine, industrial relations, social problems, industrial psychology, nutrition, health education, as well as excursions to manufacturing plants. Four periods were given over to lectures on recreation and other methods of counteracting the industrial monotony. Play demonstrations were given and everyone jonied in folk dancing and simple games.

The nurses were asked to express their opinions as to the most valuable features of the Institute. Some quotations follow:

"It is difficult to say which feature of the Institute has been of the most value, but possibly the discussion of our problems made us feel that we were giving as well as receiving help, although we derived a great deal of good from all lectures."

"The Institute showed me some ways of handling these problems and the opportunity of meeting so many other nurses in the same line of work was a pleasure indeed."

"I think the most helpful feature of the Institute has been the broadened vision of the possibilities and responsibilities of industrial nursing."

Most of the nurses wished for a larger Institute, with more round tables and excursions. Others suggested a shorter period because it would be easier to be relieved of their duties for one week. The desire for an Institute next year was unanimous.

The interest of employers was shown by the fact that many nurses attended at the expense of their firms.

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**Georgia.**—An intensive educational campaign is being conducted throughout the larger cities of the state among the negroes by Dr. J. P. Bowdoin, Venereal Disease Control Officer. Drs. A. R. Barton and R. B. Stewart, colored physicians, are putting on moving pictures and giving lectures. Over 7,000 men were reached during the month of September.

Among other matters of interest to the entire state, and to health officers in particular, is the new school for feeble minded. The state has just been given possession of this property and as soon as the preliminary organization can be perfected and the necessary changes made, the school will be opened. This can only be done in a small way, as no provision was made for maintaining the school.

The State Board of Health has had exhibits at several of the fairs, especially the

Southeastern Fair, Atlanta, and the Georgia State Fair at Macon. Free moving pictures, besides the stereomatograph, were used. The child welfare department booth was a feature.

A conference of county health officers was held at Atlanta, October 7 and 8, with excellent attendance. Child welfare was a prominent subject, with the exhibition of a modern baby health center by Drs. DeVilbiss and Bocker. Soil pollution and malaria were other subjects of great local importance under discussion. The conference was under the charge of Dr. C. C. Applewhite.

Dr. H. D. Allen, Jr., has been elected commissioner of health of Baldwin county.

Marion county has recently adopted the Ellis Health Law. This makes the twenty-sixth county in the state to adopt this measure, which gives them a full time commissioner of health.

The city of Griffin and Spaulding county have recently adopted a $10,000 budget with which to begin their city and county health work.

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**Maine.**—Twelve cases of poliomyelitis, or infantile paralysis, have been reported from ten Maine towns since Sept. 1, eight of them during September and four new cases since the beginning of October. These are practically the first reports of the disease in Maine in 1920, and while far from indicating an epidemic, have put the health authorities on their guard, especially in view of the fact that in several sister states infantile paralysis is now prevalent in alarming proportions.

Maine's famous "fly case," which has been in the courts off and on for the past six months, has again resulted in defeat for the fly, at the hands of the jury in the York County Supreme Court.

At this last trial of the case, the landlord of the Colonial Inn at Ogunquit, who had brought suit against a former guest at his hostelry for leaving the Inn before the expiration of his contract, was defeated. Frederick A. Sweet of Worcester, the defendant, who left the Inn on account of the many flies which he alleged infested the dining room, was the victor.

The landlord first brought suit last May and was awarded a verdict of $128.78, but the defendant took the case to the law court, where Justice Spear, in recognition of the opinions of health authorities that the fly is a filthy and disease-spreading insect, ordered a new trial.

A quota of $60,000 has been named for Maine which means the sale of four million Christmas seals and approximately $20,000 in health bonds, which are in denominations of $5 to $1,000. Ninety-five per cent of the money from the sale stays in Maine, to be devoted to the cause of better health in the Pine Tree State.

The Maine Public Health Association having had at its disposal in 1920 a budget of about $25,000, is seeking to double this figure during 1921. There will be a corresponding extension of the functions of the association, which will include modern health crusade, nursing service, and coöperation with local associations.

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**Maryland.**—Johns Hopkins University has under way a six weeks' intensive course in training health officers. On each week day laboratory demonstrations and practical exercises occupy the morning hours. The other work is to be done in the afternoons. Lectures are given on five of the week days. An idea of the character of the course may be obtained from the following program of lectures: public health law, selected topics in hygiene, principles of nutrition, immunity, principles of public health administration.

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**Massachusetts.**—Dr. Eugene R. Kelley, Commissioner of Public Health, has requested $25,000 from the Governor and Council that plague prevention measures may be inaugurated in the seaport cities and towns of Massachusetts. This work will be done in conjunction with other New England states having seaport communities.

At a recent conference held at the State House of the Commissioners of Health of Connecticut, Rhode Island, New Hampshire, Maine and Massachusetts, a request was made that an officer of the U. S. Public Health Service might be detailed as an adviser in this work in each of the states

represented. P. A. Surgeon L. L. Williams, Jr., has been detailed for this work.

It is planned to conduct a rodent survey in each seaport community. The Harvard Medical School, through Dr. Milton J. Rosenau, Professor of Preventive Medicine, has offered space for the laboratory examination of the rats. The personnel for this survey consists of a consulting director, bacteriologists, an expert rat trapper with six assistants, dieners and laboratory and clerical assistants. Strenuous efforts are being made to interest local authorities in enacting building regulations which will secure rat-proofing of new and old constructions. In the event that plague-infected rats are found, intensive trapping and rat-proofing will be undertaken.

As the infection is found in the rat some months before it appears in the human family, the wisdom of this survey is apparent.

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**Michigan.**—Through the autumn examinations have been conducted by local authorities in many districts in coöperation with the Michigan Department of Health for the purpose of detecting diphtheria carriers. The largest survey yet attempted began September 20, when the department's "laboratory on wheels," manned by five technicians, started examination of 6,000 school children in St. Clair county. Surveys have been made, or are now being conducted, at Manistee, Marion, Ithaca, Northland, New Baltimore, Fowlerville, Bellville, Barryton, Hopkins, Vicksburg, Mancellona and Greenville.

These carriers are not clinically sick, but they would, if not discovered, make other children sick, cost the community hundreds of dollars to care for an epidemic, and possibly death and desolation to several homes by the loss of loved ones, asserted Dr. William J. V. Deacon, Director of the Bureau of Communicable Diseases. "If the work has saved the life of only one child in the state of Michigan, it is well worth the money cost and effort."

Deaths from whooping cough and from automobile accidents, numbering 398 and 238 respectively, for the first 9 months this year in Michigan, are both due to the same cause, according to Dr. Deacon. That cause, he asserts, is carelessness.

One-half of the cases of whooping cough occur among children under three years of age, the same officer declares, and the sole exciting cause is contagion. By far the greater number of children exposed to whooping cough take it. Momentary exposure is enough to transmit the infection to another person. It is here that carelessness enters in. There should be no epidemics of whooping cough if parents regarded the health of other people's children half as much as their own. Under no circumstances should the child suffering from whooping cough be permitted to come in contact with other children.

Subdued gradually by white men from the time when Jean Nicolet first invaded their territory in 1634, the question now arises as to whether Michigan Indians will be exterminated by the great white plague of their white conquerors. Officials of the Michigan Department of Health believe the Indians will be exterminated in time unless the state makes strenuous efforts to save them. A survey of part of the Indians in the Upper Peninsula made during the past summer under the direction of Dr. R. M. Olin, State Health Commissioner, reveals that 63% are either positive or suspected sufferers of tuberculosis.

With 7,234 cases of diphtheria reported in Michigan from January 1, to November 5, this disease, which was more prevalent in Michigan during 1918 than in any other state in the union or country in the world, now shows an increase of 30% over last year and two and one-half times the average for the past 12 years.

In the testing of more than 15,000 cultures from the throats of school children in the past few weeks, 155 carriers of virulent diphtheria organisms were found by the State Department of Health. These carriers have been isolated and treated by family physicians, successive tests being made of cultures by the state laboratories to determine when the patients are safe for release.

That Michigan is no longer "outostriching the ostrich" in the national fight against venereal disease, and that the new policy is one of frank recognition of the diseases and a comprehensive and determined effort to eliminate them in contrast to the old method of the public shutting

its eyes, is shown by the annual report of the venereal disease division of the Michigan Department of Health. In a recent survey of 444 cities in the United States, conducted by the U. S. Public Health, Michigan ranks among the first states in the Union, if not at the top of the list, in measures taken toward eradication of these so-called social diseases. Of ten cities with 500,000 or more population, Detroit ranks first; among the 57 with 100,000 to 500,000 population, Grand Rapids is third; among 59 with 50,000 to 100,000, Flint is sixth, Saginaw is thirteenth; of 123 with 25,000 to 50,000, Lansing is third, Jackson fourth, Battle Creek sixth, Kalamazoo eleventh, Bay City twenty-third; and of 193 cities with 25,000 population or less, Ann Arbor is fortieth, Pontiac forty-ninth, and Port Huron fifty-fifth.

Comparative freedom in Michigan this season from epidemics of bronchial pneumonia, mastoiditis, and ear and nose infections, following attacks of minor ailments, such as measles, whooping-cough, scarlet fever and common colds, is predicted by the Michigan Department of Health. This belief is based upon reports from the state laboratory, which is making a systematic study of the seasonal variation of certain strains of the hemolytic streptococci group of bacteria.

Appreciating the benefits accruing to physically subnormal children by attendance during the winter in open air classes, the Detroit Board of Education decided to continue one school throughout the summer.

The following half-day schedule was in force:

8:30- 9:15—Class work.
9:15- 9:45—Shower baths (3 times weekly).
9:45-10:00—Lunch.
10:00-11:15—Class work.
11:15-11:30—Recess.
11:30-11:35—Preparation for dinner.
11:35-12:10—Dinner.
12:10-12:20—Tooth brush drill.
12:20- 1:10—Rest period.
1:10 —Dismissed for the day.

The school was in session from June 28 to August 21, a period of eight weeks. The total enrollment was thirty-eight. Attendance was purely voluntary and amounted to 88%, as computed from the enrollment days and the days present. From June 16, the close of the regular school session, to June 28, the opening of the summer school, 20 children lost an average of 0.4 pounds (14 lost, 4 were unchanged, 2 gained).

Twenty-five children were present in the summer school more than 20 days, the average being 29 days. Their weight at entrance was 60.1 pounds. Their normal weight was 67.1 pounds. They were thus 7 pounds under weight, or about 10%. In 29 days under the half-day open air school regime they gained 1.9 pounds. Not one child lost weight. Four failed to gain, but did not lose. Twenty-one gained from half a pound to four pounds.

To sum up, these children started to lose weight on being turned out of school in the middle of June. The summer session rescued them from this downward course and again put them on their feet, causing a gain twice that of the normal child.

Dr. George T. Palmer, Epidemiologist of the Detroit Department of Health, presents some striking figures with reference to diphtheria. He calls attention to the fact that although it is known that antitoxin if properly administered in sufficient dosage will prevent fatalities from the disease, it is still true that deaths have not fallen off the way they should in Detroit. The figures for that city are these:

| | Annual Death Rate per 100,000. |
|---|---|
| 1914 | 26.7 |
| 1915 | 17.1 |
| 1916 | 35.8 |
| 1917 | 49.6 |
| 1918 | 30.0 |
| 1919 | 33.1 |

It seems most difficult to secure more effective use of antioxin.

The number of cases of diphtheria, except for variations from year to year, has not decreased since 1914.

| | Annual Case Rate per 1,000. |
|---|---|
| 1914 | 3.42 |
| 1915 | 2.93 |
| 1916 | 4.98 |
| 1917 | 5.43 |
| 1918 | 3.08 |
| 1919 | 3.89 |

In order to see whether intensive work

may not be effective here, the plan has been inaugurated of a wide application of the Schick test to discover school children susceptible to diphtheria. To these susceptibles will be given toxin-antitoxin to stimulate the natural production of antitoxin, which in turn will render the person immune to diphtheria, in all probability immune for life.

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**New Jersey.**—New Jersey's Child Hygiene Bureau work for 1919 has resulted in the lowest infant mortality rate in the history of the State, 2,359 fewer babies having died than in the preceding year. In 1919 the infant mortality rate was 84.7. If the same rate had obtained during that decade, 19,955 fewer babies would have died.

The prevention of the unnecessary separation of mothers and children, and the elimination of baby farms, has been made possible by an addition to the Sanitary Code, which now requires anyone who boards one or more children to obtain a license from the State Department of Health and to conform to its regulations.

A survey of the physical conditions of certain day nurseries by the N. J. Child Hygiene Bureau has indicated the need of control and supervision. Regulations have been prepared to be incorporated in the Sanitary Code, which will require all day nurseries to obtain a license from the Department of Health and to conform to its regulations for the proper care and protection of children.

The bureau is particularly interested in the perfection of birth registration. A survey has been made, and while the study was not sufficiently extensive to permit positive statements, it appears that there is considerable variation in different parts of the State. In some localities the study indicated only 66% of the births reported, while in many communities the study showed 97% to 98%.

In New Jersey, the midwives attend one-third of the births in the State, and, in certain cities and counties, more than one-half of the births. The Child Hygiene Bureau has devoted itself to improve the obstetrical services rendered by the midwives.

The Montclair, New Jersey, Board of Health has undergone a reorganization following the appointment of a new board, consisting of Dr. James Spencer Brown, president, and Herbert B. Larner, formerly of the U. S. Public Health Service, health officer. Another infant hygiene clinic has been added to the department and a new laboratory completely equipped. The laboratory will be in charge of Miss Helen G. Jacobs, Simmons College, 1918, who for the past two years has been connected with the laboratory staff of the New Hampshire State Board of Health.

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**New York.**—On the first of July the Department of Health of Niagara Falls modified its system of educational nursing in child welfare by dividing the entire city into three districts and placing a nurse in each district. The nurse is furnished weekly with the list of births in her district. Each new baby is visited by the nurse; if a physician is in charge the nurse makes no further visit except at his request; if no physician is in attendance, but the mother does not wish further visits, the nurse does not call again except in certain special cases where later tentative visits seem advisable. Where the babies are not doing well the nurse seeks to get them under medical care and whenever the mother can be so induced, well babies and those artificially fed according to home ideas are taken to the child welfare station for registration and supervision.

Clinics for the venereal diseases were established in Plattsburgh early in the fall, two sessions being held weekly. These clinics are held at the Board of Health rooms at the City Hall.

One hundred and seventy babies were entered at the second annual baby show at Gouverneur Fair in St. Lawrence county. The mother of one of the babies, who has captured a prize both years, said the instruction and literature received at the contest last year had enabled her to maintain the proper growth for her child.

Dr. Edward S. Godfrey, Acting Director of the Division of Communicable Diseases, N. Y. State Health Department, has recently been appointed Director, *vice* Dr. F. M. Meader, resigned. Dr. Geo. S. Shaw of Camillus, N. Y., has been appointed a Sanitary Supervisor and assigned to Albany, Greene, Schoharie, Rensselaer and Columbia counties. Dr. Shaw is a gradu-

ate of Syracuse Medical College and served in various capacities during the war, retiring with the rank of major. Dr. H. J. Ball, until recently in charge of the above district, has been transferred to Oneida, Herkimer, Madison, Otsego and Lewis counties.

Dr. E. R. Ritchie, formerly Health Officer of the village of Brewster, Putnam county, has been appointed Sanitary Supervisor and assigned to Westchester, Dutchess and Putnam counties. Dr. Edward S. Marsh, Consultant in Venereal Diseases, State Department of Health, has recently been appointed Assistant Professor of Hygiene and Preventive Medicine at Long Island Medical College.

Through the appointment of Mrs. A. D. Roberts as Health Secretary in Livingston county, a new combination of forces for public health has been effected. The Board of Supervisors of the county has appropriated the necessary amount for the salary of the health secretary; the Livingston County Tuberculosis Committee has assumed responsibility for the office equipment, transportation and the cost of attending conferences, public meetings, etc.; while the work will be under the supervision of a committee consisting of the Chairman of the Public Health Committee of the Board of Supervisors, the Chairman of the Livingston County Tuberculosis Association, and the District Sanitary Supervisor of the State Department of Health.

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**North Carolina.**—In the October issue of the State Board of Health's bulletin a successful warfare against diphtheria is indicated in statistics beginning with 1915. Then there were 545 deaths in each 100,000 population. In 1916 the number was 418, in 1917 it was 308, in 1918 the drop was to 252 and in 1919 to 242. Available statistics for 1918 show that there were 252 deaths in 1,306 cases and in 1919 there were 242 deaths in 3,519 cases, the fatality in the first being 18.47% and in the second 6.88%. Thus there is a marked, a radical reduction in deaths. To antitoxin belongs the credit for this assault on the citadels of disease. This antitoxin is furnished by the State Board of Health at 25c, which is below cost. Appropriations from the legislature makes up the difference.

The North Carolina authorities realize that there is no specific for measles and whooping cough, but it knows that it is possible to lessen the toll from these diseases. The first precaution is to avoid having them. If measles is abroad in the community the order is to keep the child away from it. If the child gets it the thing to do is to send the victim to bed and keep him there. By careful treatment there will be no dangerous aftermath which really makes measles highly fatal. Whooping cough does its worst in youth. The baby under one year stands one chance in eight of dying; from one to two, 1 in every 10; from two to three the rate is 1 in every 30; from three to four, it is 1 in every 50, and from four to five, 1 in 200 die. The application is obvious.

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**Nova Scotia.** — Dalhousie University, Halifax, has under way its second course in public health nursing. The students are graduates of schools in nursing, the standing of which is satisfactory to the University. The length of the course is six months and the special studies include social hygiene, federal quarantine, immigration problems, home nursing, first-aid teaching, soldiers' civil reëstablishment, together with mental and industrial hygiene. Practical field work may be taken up to six mornings a week. The courses are made possible through the coöperation of the University, the Victorian Order of Nurses and the official health organizations of the province and private organizations in Halifax and Dartmouth.

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**Oregon.**—For the first time in American history the citizens of a state, directed by a representative of the U. S. Public Health Service, are by voluntary service, with almost no money, carrying out a successful state-wide investigation into the numbers and condition of the misfits and down-and-outers of the community. The state is Oregon and the classes investigated are the dependent, delinquent and mentally deficient. The work is not yet complete, but, according to Surgeon-General Cumming, of the Public Health Service, enough has been done to show that the results will vie with that of similar work done in other states by a trained official force. Dr. Cumming,

in fact, thinks that it is amazing that the public could be brought to take such interest in such abstruse work and considers that Oregon's example might well be followed by other States where similar work is hanging fire because of lack of money.

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**Texas.**—Most children of today do not get enough variety of food, do not take enough time to eat their meals, and do not get enough sleep. This is the statement made by Miss Pearl N. Hyer, R. N. public health nurse of the Texas Public Health Association. In her physical examinations in the public schools Miss Hyer has discovered that these three things are responsible for 50% of Texas children being underweight. To help remedy this defect among the children the Association is undertaking a campaign of public education.

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**Philippines.**—A committee has been appointed for the purpose of drafting a bill for submission to the incoming Legislature by the coöperating health and scientific agencies of Manila. The purpose of the bill will be the regulating of the operation of private chemical, pathological and bacteriological laboratories in the islands. The committee is to make definite recommendations relative to the professional qualifications of the proprietors and technical assistants of these establishments by providing for an adequate theoretical and practical examination of the usual laboratory procedures and requiring a minimum standard of equipment in apparatus, glassware, reagents, chemicals, test animals, etc.

The committee comprises Dr. H. W. Wade, U. of P., Chairman; Dr. Luis Guerrero, U. of P.; Dr. Liboric Gomez, B. S.; Dr. Proceso Gabriel, P. H. S.

The officials from the Bureau of Science and the University of the Philippines are detailed under authority of their respective bureau chiefs. The member from the Philippine Health Service will act as recorder. The committee is to meet from time to time at the headquarters of the Philippine Health Service at the call of the chairman thereof.

Pending the drafting of the necessary legislation outlined above, the committee will act in an advisory capacity to the Acting Director of Health on such questions as may come up with regard to existing private chemical, pathological and bacteriological laboratories.

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**Utah.**—The Department of Public Instruction of this state is calling attention to the danger and the cost of the mentally defective. They reproduce very rapidly and not less than two-thirds of the defectives are children of defectives. They contribute largely to the population of prisons, asylums and institutions. The 1 per cent of the defective children in public schools will contribute to these institutions if proper care is not taken of them. In a campaign of public education the authorities make note of the fact that an adequate state program is necessary. Such program should include identification, registration, proper education, supervision and segregation.

The Department furnishes regularly to teachers a syllabus of instruction in safety, health habits and hygiene. There are issued leaflets for review of the text books, the whole procedure having the elements of a very useful course of study undertaken in the public schools.

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**Virginia.**—A cageful of rats was one of the spectacular exhibits at the Greensville fair. The rats were not intended to serve as attractive but rather as horrible examples to illustrate the warnings that lined the booth where they were shown.

The State Board of Health and the U. S. Public Health Service are jointly staging this unusual spectacle. The rats are to be shown as nuisances, as destroyers of food and as menaces to life and health. As a matter of fact, there is not a single good word said for the rats, and the live ones in the cage are not picked with the idea that they will inspire good wishes.

Henry County has recently closed its first dental clinic for children. Hundreds of the little ones were attended to; their teeth received the care necessary to prevent later troubles. The cost of the work was trifling and the results have made a lasting impression. Henry County appropriated $300 for the clinic and the State Board of Health contributed a like sum. This $600 fund paid the salary of a dentist who gave three months to the work. Each child who

had his teeth cleaned paid twenty-five cents for that service, and each filling cost the same sum. These trifling collections paid all costs of the clinic except the salary, which was settled by the County and State Health Board appropriations.

Pictures illustrating the details of work in malaria prevention are being made at West Point, Va., where a very successful campaign for mosquito extermination was recently concluded.

The movies will give a very fair idea of the simplicity of the operations, such as ordinary ditching for draining, the use of dynamite in ditching, oiling of pools, etc.

During the coming months, the joint work of the Public Health Service, the Virginia Board of Health and the International Health Board will consist principally of malaria surveys; and it is the intention of these agencies to finish at least one complete county survey which it is believed will furnish not merely statistics for future operations, but will yield information that should enable coming campaigns to be conducted with less loss motion and experimentation.

Inspired by the example of modern war offices, Virginia Polytechnic Institute has inaugurated for its cadet corps a system of medical and physical examinations very similar to those adopted for testing army recruits.

Arlington County is asking that some other Virginia county will challenge it for supremacy in health activities. In support of its claims it offers the September record of its health unit, just compiled by Dr. J. W. Cox, U. S. P. H. S., its health officer.

Among the items of interest, and showing what a health unit may accomplish, the Arlington report shows that 1,365 pupils were examined during the month, that 33 children were treated outside clinics and 286 pupils were treated at clinics, a large majority of the latter for dental troubles to which so many later difficulties are now being attributed.

## CONVENTIONS, CONFERENCES, MEETINGS

December 2, Providence, R. I., Rhode Island Medical Society.

December 6, Petersburg, Va., Medical Society of Virginia.

December 6-11, Washington, D. C., All-American Conference on Venereal Diseases. First Regional Health Conference.

December 9-11, Bridgeport, Conn., National Housing Conference.

December 12-20, Montevideo, Uruguay, Sixth International Sanitary Conference of the American Republics.

December 14-16, Hot Springs, Va., Southern Surgical Association.

December 22-26, New York City, American Dietetic Association.

December 27, Richmond, Va., Virginia Health Officers' Association.

December 27, Richmond, Va., Virginia Conference of Health Workers.

December 27-January 1, Chicago, Ill., American Association for the Advancement of Science.

December 28-30, Chicago, Ill., Society of American Bacteriologists.

December 29, San Francisco, Cal., League for Conservation of Public Health.

December 30, Chicago, Ill., American Physiological Society.

January —, 1921, Boston, Mass., Massachusetts Society for Mental Hygiene.

January 11, ——, Nebraska, Nebraska State Nurses Association.

January 17-21, Atlantic City, N. J., National Canners' Association.

January 26-27, Lewiston, Me., Maine State Nurses Association.

January 27, ——, Iowa Tuberculosis Association.

January 27, Boston, Mass., Massachusetts Association of Boards of Health.

February —, Austin, Tex., Texas Public Health Association.

February 1, New York City, New York Tuberculosis Association.

February 1-3, Montreal, Can., Engineering Institute of Canada.

June 6-10, Boston Mass., American Medical Association.

# INDUSTRIAL HYGIENE AND OCCUPATIONAL DISEASE

Abstracted by Drs. E. R. Hayhurst and E. B. Starr.

**Case Report Showing the Relation Between Occupation and Bronchial Asthma.**—Bronchial asthma may be of two types: sensitive to proteins, and non-sensitive to proteins. The case cited was that of a man aged 44 years, a baker for 26 years, who had suffered continually from chronic bronchial asthma of the sensitive type for a period of 14 years. About every second or fourth week he developed an acute attack. General examination was negative except that his lungs showed some emphysema. The patient was tested with proteins from about 100 vegetable and meat sources and to most of the common pus-producing organisms. It was discovered that he was sensitive only to rye and wheat and wheat globulin. Naturally his trade compelled him to spend a great deal of his time exposed to these proteins. The author cites a similar case report from literature. Three methods of treatment are possible: (1) eliminate the offending protein and change the occupation; (2) heat or boil the offending protein, which explains why some persons can eat baked or boiled substances which cause anaplylactic symptoms when raw, and (3) desensitizing the patient with the same offending proteins by careful subcutaneous injections or feeding. The latter appears to be the preferred method.—Jacob Rosenbloom, *A. J. Med. Scs.*, September, 1920, pp. 414-417.

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**Sickness and Absenteeism in Industrial Establishments.**—What proportion of absenteeism is caused by sickness? An Eastern manufacturing company with 6,700 employes permitted an investigation of this subject. With the opportunities offered by visiting nurses and the services of a physician, reliable information was secured. Absences of less than three days were not investigated, and of all absenteeism, disabling illness probably did not constitute more than 33% of the total lost time during the year 1919, the balance of lost time being due to purely personal reasons. The peak of absenteeism was reached in May, but March, April and December were the months when disabling illness was the highest. There appears to be hardly any relationship at all between the illness rate and the rate of absences, although there was an apparent high correlation between seasonal variations for sickness and absenteeism. There was a marked increase of sickness in persons of 40 or more years of age. Few deductions could safely be drawn, but the information indicated that fruitful fields are open for further exploration in this matter. There were marked differences in rates between different departments, but the question of other possible factors such as age, sex, nationality, housing conditions, etc., was not investigated.—Dean K. Brundage, *Public Health Reports*, Sept. 10, 1920

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**Indicators for Carbon Dioxide and Oxygen in the Air.**—The authors claim to have solved the problem of supplying a simple and reasonably accurate instrument for indicating the ratio of carbon dioxide and oxygen in the air that people who work in confined places breathe. Many similar devices are on the market; some are good, some absolutely worthless. The instrument in question is simple, portable, and uses the process of absorbing the gases in a solution of caustic soda. The oxygen determinator is likewise simple, portable, and uses the process of absorbing the oxygen in an alkaline pyrogallate solution. Minute descriptions, details, diagrams and illustrations are given and tables showing the accuracy of the instruments. The carbon dioxide instrument is accurate to within $\pm 0.2\%$ of the total carbon dioxide present in the air; the oxygen apparatus to within $\pm 0.5\%$. The instruments were used to test the air in a submerged submarine on Aug. 1, 1918. They were checked by an Orsat analytical apparatus which proved their efficiency. In a space of about four hours oxygen gradually decreased from 20% to 18.6%, and carbon dioxide gradually increased from 0.5% to 1.8%.—Milligan, Crites and Wilson, *Technical Paper 238, U. S. Bureau of Mines*, 1920.

**Eye Strain in Relation to Industry.**—Eye strain should not be understood as the overuse of a pair of optically perfect eyes, but the use of imperfect eyes. Practically no human eyes are optically perfect; that is perfectly adapted to the purposes which under present conditions they are expected to serve. In the past the visual apparatus was used almost solely for distant vision, while civilization now demands constant and accurate vision at near range. The mechanism for this does not exist, and the attempt to compel the function brings diseases. Headaches and migraines lead the list of symptoms, but a long list of other afflictions involving even the stomach and digestive tract, spinal curvature, etc., are included. All of these morbid diseases are preventable by the use of two simple devices: (1) scientific spectacles, and (2) a proper position of the head and body when occupied at work. The author arranges occupations in five groups, in the order of their eye-strain characteristics. To the first group belongs the so-called "natural occupations" (agriculture, hunting, fishing, etc.), which have the lowest eye-strain effects, while in group 5, requiring close eye work, from 80% to 100% of persons are believed to suffer. The following rules obtain: (1) The nearer the object the greater the eye strain. (2) The more constant the focalization the more severe the eye strain. (3) Decreasing illumination results in a geometrical increase of eye strain. 4) Exposure of eyes during labor to wind, cold, heat, dust, etc., causes inflammatory troubles and eye strain. (5) Abnormal positions of the head and body may add enormously to the ocular injuries and eye strain. (6) Age is a factor; everyone needs spectacles, especially for close work, after 43. (7) The coöperation of the two eyes must be synchronous. (8) Probably 6% of children are naturally left-handed caused by left-eyedness. (9) Astigmatism or incorrect posture may so tilt the head and body as to set up a curvature of the spine. The article concludes with a consideration of the light in factory work rooms, schools, etc., about which surprisingly little is actually understood.—George M. Gould, *Amer. Jour. of Physiological Optics*, January, 1920, abstracted by *Monthly Labor Review*, July, 1920.

**$20,000 a Year for Paper Cuspidors.**—In this paper, entitled "How Henry Ford Saves Men and Money," it is stated that each department has a constant supply of paper cuspidors and sawdust which are supplied each morning to every man who is accustomed to spitting while at work. At the end of the shift he throws his used cuspidor into the refuse can. The sawdust and cuspidors cost the company $60 a day, $20,000 a year. It further states that $6,000 a day, or close to $2,000,000 a year, are spent to keep the windows washed, the floors swept and scrubbed, and the plant generally clean. Heat prostrations, which used to occur in the cyanide furnace rooms and the annealing furnace rooms, have been done away with and the labor turnover reduced 25%, the output increased and the working force reduced 50% by placing canopies over these furnaces and exhausting the hot air. These brought the working temperature from 133°-135° F. down to 80° F. The cost of installation was $11,400, and it paid for itself the first month in the saving of labor alone.—Lewis Resnick, *National Safety News*, Sept. 13, 1920.

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**Lead Poisoning and Its Prevention.**—The author, who is chairman of the Manufacturing Committee of the National Lead Company, goes into details of the mechanical features connected with the safe handling of white lead and lead in dusty forms and several illustrations are included. The prime object behind all is to keep the lead dust out of the nose and mouth of the worker and the writer takes the position that most dust hazards can either be eliminated or substantially reduced by special machinery including dust systems. Where lead is used in paints, the dust hazards would seem to disappear, but when painters sandpaper the painted surfaces, there is an exception. The remedy is to moisten sandpaper in a light mineral oil. This practice is not only safe but saves time and does a better job. Mr. E. J. Cornish, president of the National Lead Company, offers to confer with the representatives of any users of lead products at all times for the purpose of bettering conditions.—C. P. Tolman, Eighth Annual Proceedings, *National Safety Council*, (1919), 448-458.

**Blacksmithing and Plumbing in Relation to Disease in Their Vicinity.**—Blacksmiths and plumbers do not conserve the heat and gases escaping from their forges which necessarily escape to the surrounding atmosphere. A lead melting furnace was found to emit, in the city of Glasgow, lead, manganese and iron. An analysis made of fine deposits in a vicinity where death is declared to have occurred in a young girl from inherited and acquired poisoning (lead and manganese), showed manganese 0.102% and iron 3.40% with presence of lead and arsenic. He recommends that in blacksmithing the chimney of the forge be provided with a cap or hood. The author contends that the forges of blacksmiths, tinsmiths and plumbers all emit manganese which is deposited in the vicinity and is a hazard to the health of the community.—James Gairdner, *Lancet* (London), Oct. 2, 1920, pp. 726-727.

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**A Study of Factory Sanitation in Foreign Dye Works.**—The writer describes personal impressions received in visiting dye works in France, Switzerland, England and Germany. The dangers from well-known poisons such as nitro-benzine and aniline are recognized everywhere. There is a controversy as to the relative dangers with these poisons when absorbed through the skin or inhaled as fumes. Dinitro-benzine is dreaded in British factories both because of the dermatitis and because of systemic poisonings. The methods of protection for workers in these substances are described by the author and the original article should be consulted. Avoidance of work in warm weather is a feature with some of the poisons and food and medical care are given special attention. Alice Hamilton, 8th Annual Proceedings, *National Safety Council* (1919), 436-448.

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**A Simple and Inexpensive Respirator for Dust Protection.**—For those who must contend with dust in a breathing atmosphere and have to put up with a respirator, this short bulletin is very material. The respirators are made of one-half ounce of clean absorbent cotton pinned or fastened to a piece of cheese-cloth which is long enough to tie about the head and wide enough to cover thoroughly the nose and mouth. This simple device keeps out dust for a period of four hours or more. Careful tests show no lead dust drawn through the gauzy material. The respirators are cheap, light in weight, do not obstruct vision, can be changed daily at little expense, may be washed when necessary, are not apt to be interchanged by workmen, do not break, rust or wear out, or cause excessive perspiration while they absorb what sweat is produced. They cause no irritation to the skin and are easily changed to fit the face. They are recommended to comply with the Industrial Code of the State of New York. The Bulletin is amply illustrated.—Special Bulletin No. 90, *New York Industrial Committee*, Department of Labor, 10 pages.

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**Where Courses in Industrial Medicine May be Taken.**—Briefly, Harvard University, The University of Cincinnati, Rush Medical College (The University of Chicago), and the Ohio State University give courses in Industrial Medicine, while courses in Public Health including Industrial Hygiene are given at Johns Hopkins, the University of Pennsylvania, Yale University, and a number of other institutions. A Clinic for Functional Reëducation, established by Dr. W. Gilman Thompson in Feb., 1918, in New York City, is meeting with good success. A number of hospitals as well as some departments of health have clinics on occupational diseases. Medical students are not awake to the possibilities of industrial medicine and according to Hayhurst the course of medical training blocked out by the Council on Education of the American Medical Association does not provide for enough appropriate training in medical sociology, medical economics, "mass" medicine, etc., to suit the demands of the times. (Those interested should read this article in full.)—Shuford, *Monthly Labor Review*, May, 1920, U. S. B. of L. S., Washington, D. C.

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**Hours of Work as Related to Output and Accident Rate.**—The outstanding feature of the 8-hour system is steady maintenance of output, while the outstanding feature of the 10-hour system is the decline of the output.—*Public Health Bull.* No. 106, Feb., 1920, abstracted, Monthly Labor Review,

# PUBLIC HEALTH LABORATORY NOTES

Abstracted by Arthur Lederer, M. D.

**Standard Microscopic Equipment.** — A standard microscopic equipment has been selected for use in the Army Medical Department, according to information given out by Surgeon-General Ireland. The models are the Bausch and Lomb FFS8 and Spencer 44H, including the Spencer folding microscope for portable laboratories in the field. A recent survey of the Medical Corps equipment disclosed that there are many different makes and models in use in the service, and all of these are to be replaced by the new models. The reason for the selection of these types lies in the fact that oculars, objectives, condensers, mechanical stages and dark field illuminators of these models are interchangeable.—Anon., *Jour. A. M. A.*, 75, 885. (1920.)

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**Types of Streptococci in Sputum of Bronchial Asthmatics.**—The authors studied the types of streptococci in the sputum of bronchial asthmatics during two seasons. The types present are not numerous. Practically all of the hemolytic streptococci were of four types; of the non-hemolytic streptococci three types were met with particularly. The organisms in the nasal secretion may vary radically from those occurring in the sputum. Autogenous vaccines should be employed in the treatment of these cases rather than stock vaccines.—J. Adkinson and I. C. Walker, *Jour. Med. Research* (Boston), 41, 437. (1920.)

✚

**Estimating the Number of Organisms in a Vaccine.**—The number of organisms is estimated by means of the nephelometer. The results are very satisfactory and as accurate as those obtained with the microscope. The method requires very little time.—G. C. Dunham, *Jour. Immun.*, 5, 337. (1920.)

✚

**Paraffin Seals for Anaërobic Fluid Cultures.**—Tubes sealed with solid paraffin with the technique employed by the author give a greater percentage of positive growths with stock anaërobic cultures than parallel groups sealed with liquid paraffin. This advantage is due to the prevention of the downward defusion of oxygen by convection currents in the tubes sealed by the solid paraffin method.—Leonard R. Thompson, *Jour. Infect. Dis.*, 27, 240. (1920.)

✚

**Studies in Epidemic (Lethargic) Encephalitis.**—Berkefeld filtrates of brain material, nasopharyngeal mucous membrane and nasal washings from cases of epidemic encephalitis have produced in rabbits and monkeys lesions typical of this disease. Spinal fluid and blood have also produced the disease experimentally in these animals. Many of the animals have succumbed with the typical picture of epidemic encephalitis. The virus has been passed through many series of animals. It can be preserved for many months in 50% glycerol. By means of the ascitic-tissue culture methods perfected by Noguchi it has been possible to cultivate a minute, filtrable organism from cases of epidemic encephalitis from brain, nasopharyngeal mucous membrane, nasopharyngeal washings, spinal fluid and blood. The same organism has been recovered from the brain and nasopharyngeal mucous membrane of animals that have been inoculated with virus and cultures and which have succumbed to the experimental disease. The cultures thus recovered have produced the disease when injected into other animals and organism has again been recovered. Positive animal inoculations have been obtained with the 11th generation of this organism. Epidemic encephalitis can be differentiated from epidemic poliomyelitis for these reasons: rabbits are susceptible to infectious material from epidemic encephalitis and not from poliomyelitis. Monkeys are very susceptible to poliomyelitis and relatively refractory to material from epidemic encephalitis. Spinal fluid from poliomyelitis is innocuous when injected into rabbits and monkeys, whereas spinal fluid from cases of epidemic

encephalitis produces in both of these animals lesions typical of the disease.—Leo Loewe and Israel Strauss, *Jour. Infect. Dis.*, 27, 250. (1920.)

✚

**Body Temperature Taken in Freshly Voided Urine.**—The simple method of determining the body temperature by observation of the temperature of the freshly passed urine is of practical value. This will apply principally to cases in which measurement by rectum is impossible or obnoxious as, for instance, in timid patients (children and hysterics) or in hypochondriacs, who should not be acquainted with the existence of high temperature. It may also be of value as a new diagnostic method in diseases of the urinary tract. This will depend upon a larger number of observations and will be reported in due time. The author has devised a simple apparatus which he calls a "urothermometer" for the purpose of collecting urinary specimens without loss of body heat.—Theodore Kasparek, *Jour. Lab. Clin. Med.*, 5, 791. (1920.)

✚

**Acetone in the Cerebro-Spinal Fluid in Tuberculosis Meningitis.**—The cerebro-spinal fluid of 23 cases of tuberculous meningitis in children gave with four exceptions an intense acetone reaction with Ricci and Frommer's tests. The urine in each of the 23 cases showed a large quantity of acetone except in three cases, in which only a small amount was present. The cerebro-spinal fluid in these cases showed an absence of acetone.—G. Genoese, *La Pediatria*, May 15, 1920; *British Med. Jour.*, September 11, 1920.

✚

**Alcohol in Cerebro-Spinal Fluid.**—The occurrence of alcohol in cerebro-spinal fluid was first described in 1913. The authors find that the meninges are permeable to alcohol, which appears in the cerebro-spinal fluid an hour and a half after injection of large quantities, diminishes after 48 hours, but persists for as long as eight days. The presence of alcohol in the fluid does not denote any active meningeal reaction. Estimation of alcohol may possess diagnostic significance with regard to nervous diseases, and from medico-legal points of view.—Marinesco and Paulian, *Bul. et Mém. de la Soc. Méd. des Hôp. de Bucarest*, May 26, 1920; *British Med. Jour.*, September 11, 1920.

**Diagnosis of Anthrax from Purifying Animal Tissues.**—Many anthrax like organisms are encountered in the examination of partially putrified animal tissues for *B. anthracis*. Guinea pig inoculations frequently fail because of the death of the animals from a malignant œdema-like infection before any anthrax organisms which may be present have time to develop. The author describes a cultural method well suited for the differentiation between true anthrax and anthrax like organisms.—W. A. Hagan, *Jour. Bact.*, 5, 343. (1920.)

✚

**Viability of Meningococci in Yeast Agar Medium.**—Meningococcus cultures in semi-solid yeast agar when stored either at room temperature or in the incubator at 37° C. were still fully viable after five months. In all likelihood the antigenic nature of the organisms remains unaltered as it may be indicated by comparative agglutination tests.—F. Eberson, *Jour Bact.*, 5, 431. (1920.)

✚

**Cutaneous Vaccination Against Anthrax.**—If the first vaccine of anthrax is rubbed into the shaven skin of the guinea pig a local inflammatory reaction appears which persists usually for four to six days. If, however, the second vaccine or the virus itself be used, the reaction is always fatal, death from septicemia resulting about the fourth day. A guinea pig into which the first vaccine has been rubbed successfully withstands friction with the second vaccine, and later with the virus; further, it resists subcutaneous inoculation with the second vaccine and the virus. The rabbit is as easily, if not more easily, vaccinated by these means. The degree of protection given is very great.—Besredka, *Compt. Rend. Soc. Biol.*, May 29, 1920; *British Med. Jour.*, September 11, 1920.

✚

**Alkali Reserve in Pellagra.**—Of the 56 patients tested for alkali reserve by the alveolar method and by the determination of the carbon dioxide bound by the blood plasma, none showed a marked depletion of the alkali reserve, about one-third showing a slightly subnormal level, while the great number were within normal limits. There would seem to be little uncompensated acidosis in pellagra.—M. X. Sullivan and R. E. Stanton, *Arch. Int. Med.*, 26 ,41. (1920.)

**Narcotic Drug Addiction.**—There is no substance formed in the blood serum of a human being who has acquired a high tolerance to morphine, which is capable of conferring any degree of immunity to the toxic action of morphine on an animal into which it is injected.—Emil J. Pellini and Arthur D. Greenfield, *Arch. Int. Med.*, 26, 279. (1920.)

✚

**Bactericidal Power of Whole Blood and Antibodies in Serum.**—The bactericidal power of blood as determined by the method of Heist and Solis-Cohen (Jour. Immun. 4, 147) is the most dependable criterion of the actual immunity of the animal. The development of the bactericidal power of the blood against typhoid and Shiga bacilli is practically identical with that of the serum. The route of inoculation makes no material difference in the rapidity or height of the development of bactericidal power. The agglutinins and complement fixing bodies are only roughly comparable to the bactericidal power. The leukocyte and phagocytic index are of no value in determining the degree of immunity. In the rabbit immunized to typhoid and dysentery bacilli, lysis occurs with great rapidity, and a short incubation period is sufficient. No evidence could be secured as to the mechanism of lysis. Phagocytosis, in all probability, is not a factor. Citrating and defibrinating blood of rabbits immunized to typhoid and dysentery bacilli does not effect the bactericidal activity save to slow the reaction. In the blood of typhoid and dysentery-immune animals, contaminating organisms may grow luxuriantly. A short incubation period removes most of the difficulty due to contaminants. The refractory state of Teague and McWilliams is shown to depend probably on the rapid rise in bactericidal power, and the rapidity of mobilization of this power varies with the route of injection. Inactivation of serum of immunized rabbits does not materially reduce the bactericidal action.—J. H. Black, Kenneth Fowler and Paul Pierce, *Jour. A. M. A.*, 75, 915. (1920.)

✚

**Complement Fixation Reaction in Tuberculosis.**—The article is the result of the author's experience with 6,500 reactions. The Miller antigen is serviceable, practical and efficient for the complement fixation test in tuberculosis. The reaction is specific for tuberculosis and, when positive, should be interpreted as indicating tuberculosis of some degree of activity. When the Wassermann and tuberculosis fixation reactions are both positive, they should be interpreted without relation to one another. The positive fixation reaction can be interpreted as indicating tuberculosis, either active at the time, or recently active. The focus may or may not be of clinical significance, which fact must be determined by other means. The negative fixation reaction indicates either absence of infection, excessive activity of the disease, exhausting the antibody, or arrest of the disease with spontaneous disappearance of antibody no longer required. —W. Warner Watkins and Clarence N. Boynton, *Jour. A. M. A.*, 75, 933. (1920.)

✚

**Determination of Ammonia in Culture Media in the Presence of Urea.**—In order to determine the presence of small amounts of ammonia in culture media in the presence of urea and other nitrogenous bodies it is necessary to displace the ammonia without decomposing these other bodies. Magnesium may be used to distil in vacuo if a low temperature; about 35° C., is maintained. To prevent a loss of ammonia by the formation of relatively undecomposable magnesium-ammonium phosphate, the phosphoric acid usually present in culture media must be removed before distillation.—P. Thomas. *Abst. in Bull. de l'Inst. Past.* 1920, 18, 290.

✚

**Significance of the Sachs-Georgi Reaction for Lues Diagnosis in Children.**—In two series of examinations of 178 and 200 serums, results concordant with the Wassermann test were found in 94% and 93% of the cases. Febrile conditions in non-syphilitic patients did not interfere with the reaction. Scheer emphasizes the advantage of the small amount of serum required for this reaction. He mixes 1 part of serum (.002cc.) with 9 parts of saline and five parts of cholesterine extract, incubates at 37° C. for two hours and leaves at room temperature for 18-20 hours. — Scheer. *Munch. Med. Woch.* 1919, Aug. 8: *Abst. in Bull. Inst. Past.* 1920, 18, 261.

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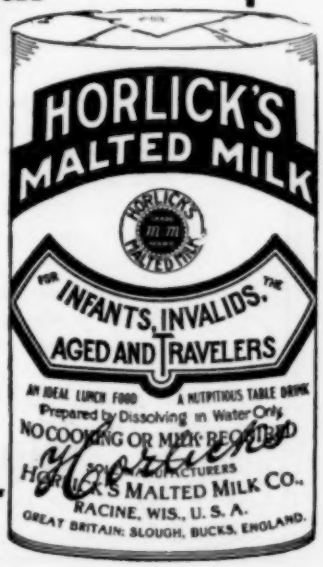
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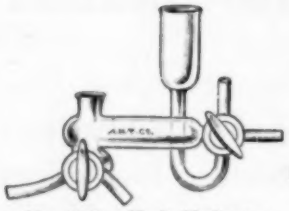

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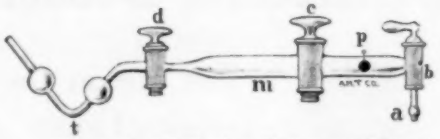


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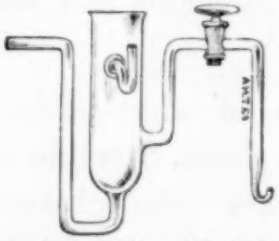

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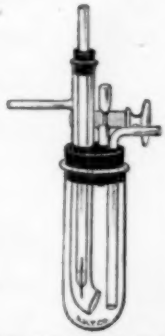

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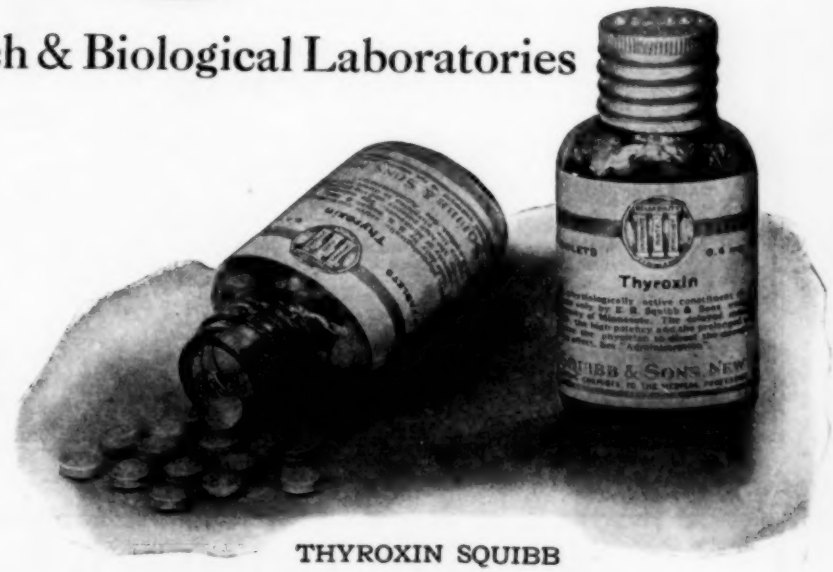


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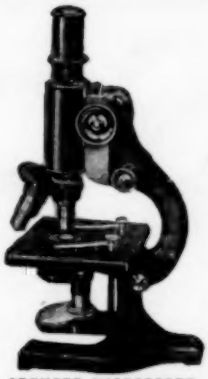

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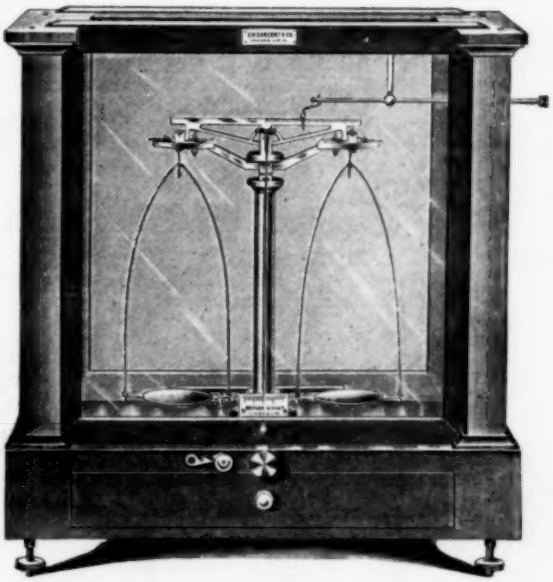

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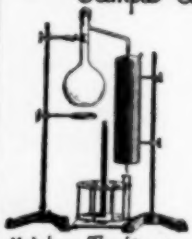
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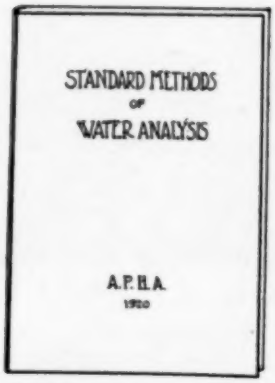

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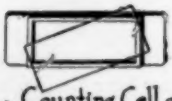
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### Of Beauty and Glands

"Shakespeare's most famous poem," wrote a schoolboy, "was 'Venus and Adenoids.'" —*Boston Transcript.*

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### His Day Off

"Don't you want to see a remarkable cataract?" said the guide to him. "Nope," was the reply, "I'm an eye doctor and on my vacation."—*Louisville Courier-Journal.*

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"Nursing is an art which concerns every family in the world."—*Florence Nightingale.*

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The fashionable physician walked in, in his breezy way, and nodding smilingly to his patient:

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### Bathing

Bathe daily, if possible; don't be a faddist, but use common sense as to the temperature of the water.—*Buffalo Sanitary Bulletin.*

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### Get on to High Gear

Things move along so rapidly nowadays that the one who said "it can't be done" is interrupted by someone doing it.—*Abbograms.*

✣

### Severe But Short

Epidemics come and go; dementia pro-Cox was as short-lived as the recent attack of Ponzilitis.—*Boston Transcript.*

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See that the new baby is registered in the Bureau of Vital Statistics, and when he grows up he will have no trouble in proving his rights.—*Cumberland, Md., Health Bulletin.*

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Coughs and sneezes spread diseases.

Preventable disease is not merely accidental. It is due to criminal carelessness.

Wealth without health is a mockery.—*Illinois Health News.*

✣

### Only a Beginning

"Anyhow," said the optimist, "we have made the Fourth of July safe and sane."

"Yes," replied the pessimist; "but there are 364 days in the year still to be looked after."—*The Mixer,* Illinois Steel Co.

✣

The person who sneaks out of a diphtheria house and slays little children with the germs he scatters is not one whit better than the murderer who sneaks into your home and slays your sleeping babe. When will the community awake to this fact and demand fitting punishment?—*Wisconsin Health Bulletin.*

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### And Then—What?

Teacher—"Arthur, compare the adjective sick."

Bright Boy—"Sick, sicker, dead."—*W. J. R. C. News.*

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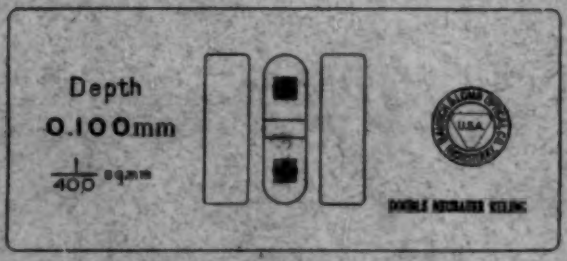


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